DOCUMENT RESUME

ED 257 054 CS 008 047

AUTHOR	Mei, June Y., Ed.
TITLE	Reading in China: Report of the U.S. Reading Study Team to the People's Republic of China.
INSTITUTION	National Committee on United States-China Relations, New York, N.Y.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	[85]
NOTE	123p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Adults; Bilingualism; *Cultural Differences; Educational Attitudes; Elementary Secondary Education; Foreign Countries; Higher Education; Literacy; Psycholinguistics; Reading Comprehension; Reading Habits; *Reading Instruction; Reading Readiness; *Reading Research
IDENTIFIERS	*China; Chinese (Classical)

ABSTRACT

The findings of a three-week visit in China by a study team of American scholars to examine the state of reading research and instruction in Chinese schools and universities are presented in the various articles of this report. Following an introduction describing the particulars of the visit, the report presents these articles: (1) "Chinese Attitudes Toward Education"; (2) "Early Childhood Foundations for Learning to Read in China"; (3) "Structure and Freedom in Some Chinese Classrooms"; (4) "Language, Script, and "Reading in China"; (5) "Impressions of Comprehension Instruction in China"; (6) "Issues in Literacy for a Bilingual Population in China"; (7) "Psycholinguistic Issues in Reading Chinese Characters"; and (8) "Reading Activities of Children and Adults". Appendixes contain the itinerary of the study team and a list of team members. (HTH)

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ED257054

Reading In China

Report of the
U.S. Reading Study Team
to
The People's Republic of China

Editor
June Y. Mei

National Committee on U.S.-China Relations

CS008047

READING IN CHINA

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The U.S. Reading Study Team visited China May 10-31, 1984 under the auspices of the National Committee on United States-China Relations, Inc. The visit and the publication of this report were made possible by a grant from the Office of Educational Research and Improvement of the U.S. Department of Education. The views expressed are those of the authors, and not necessarily those of the National Committee.

PREFACE

In May, 1984, a study team of American scholars traveled through the People's Republic of China for three weeks to examine the state of reading research and instruction in Chinese schools and universities. This visit, the first in its field, was funded by the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education, and administered by the National Committee on U.S.-China Relations. Earlier, in February-March, 1984, OERI and the National Committee played host to a delegation of Chinese specialists in primary and secondary education in the United States, so the May visit was a chance both to reciprocate and to further develop this exchange.

Reading is perhaps the most fundamental aspect of education, and the one which receives the greatest amount of attention in the first few years of school. The American study team found, as was to be expected, that as a non-alphabetic language, written Chinese requires an unusually long time to master, and some Chinese educators expressed concern that their students might lag behind students from other countries in "content" learning because so much time had to be devoted to language study. Hence, there is much experimentation in China with different approaches to basic language teaching, and efforts are being made to help students learn characters as efficiently as possible.

Given this environment, it is appropriate that reading research should be a major area of Sino-American educational exchange. For Americans, it offers the chance to examine how very different social attitudes, family practices and classroom atmospheres affect the learning abilities of students, and how learning processes differ, both linguistically and psychologically, for the English and Chinese languages. For Chinese, there is the opportunity to find out more about the latest research on reading and comprehension, and about current advances in the application of technology to teaching.

As these papers show, members of the American study team were struck by the attention and discipline shown in Chinese classrooms. At a time when many American educators are concerned with increasing student motivation and making classrooms better places for study, the Chinese experience in this area is worth a closer look. Similarly, the rapidly expanding use in the United States of computers as aids in teaching language skills may suggest new directions for improving language instruction in China. On these and other related topics, the value to both sides of such exchanges is apparent.

Of course, we must proceed with caution in trying to draw conclusions from these study tours. China and the United States are so different socially, politically and linguistically that methods which are effective in one society may be quite impractical in the other. Yet, is is precisely these differences which offer researchers new data for comparative studies, and which allow us to see more clearly the roles of various social factors in education. Both countries are large and ethnically diverse, with a multitude of languages and regional accents. Bilingual education is therefore an issue of common concern, and further comparative research on policies and practices can benefit all parties.

The ultimate purpose of educational research is to improve the quality of both teaching and learning. The visit of the American study team to China showed that this goal is shared by many educators in both countries. The team's report points out Chinese strengths and weaknesses in reading education, and contrasts these with American strengths and weaknesses. Both the Department of Education and the National Committee are committed to the strengthening of education through exchanges, and it is our hope that this approach will help us learn from each other and improve reading education in both China and the United States.

Donald J. Senese

Donald J. Senese
Assistant Secretary
for Educational Research and Improvement
United States Department of Education

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INTRODUCTION

June Y. Mei

The U.S. Reading Study Team was in China from May 10 to May 31, 1984. While three weeks is a very brief period for learning anything about such a large and variegated country, it was nonetheless possible to observe some aspects of Chinese education which are almost universal. Thanks to a highly centralized educational system, curriculum and textbooks are standardized throughout much of the country. Thus, although only a limited number of schools and institutes could be visited, their experiences are, to some extent, representative of the country as a whole.

The American delegation consisted of eight experts in the field of reading and a National Committee escort. They were hosted in China by the Central Institute of Educational Science Research (CIER), which had sent a delegation to the United States less than three months earlier. This visit had gone well, and the CIER reciprocated by arranging an itinerary which met virtually all the requests which had been communicated by the American party before its arrival. Suggestions which were brought up during the course of the visit were accepted and acted upon, even if they were on very short notice. The final itinerary (appended) was therefore highly satisfactory to all members of the study team. In matters other than professional activities, the CIER was also unfailingly gracious. Sightseeing activities were arranged or cancelled as requested, and every effort was made to give the delegation good housing and transportation. One especially nice touch was the gift of a custom-made personal seal for each American.

Two CIER staff members escorted the delegation for the entire duration of the visit--Mr. Li Bo, a research associate who had visited the U.S. with the CIER group, and Mr. Fu Li, a junior researcher working in research materials acquisitions. As undergraduates, both had majored in English, so they were able to communicate readily with all the Americans. In Beijing, Mr. Teng Chun, the leading member of CIER who headed their delegation in the U.S. and who had personally supervised the planning of the itinerary, also accompanied the study team to many schools and institutes.

In accordance with Chinese practice, the CIER made all arrangements for Beijing, where it is based; elsewhere, specific arrangements were entrusted to branches of the Ministry of Education (MOE) and local education officials. Therefore, although the broad outline of the plan was known in advance, it was not possible to find out certain details about the itinerary in other cities until the team had actually arrived there. While this added an element of uncertainty, it did not affect the trip professionally.

Reading in Schools

Although the delegation's interests covered many aspects of reading in China, the main focus was on how children learned to read. Hence, a good deal of time was spent in visiting schools, observing classes and talking with teachers. Because reading activities must be understood in context, the group's inquiries naturally extended to broader questions of the Chinese educational system, the role of the family and the effect of traditional Chinese culture on classroom behavior. Most of the schools visited were "key" or "experimental" schools; one elementary school in Beijing, in fact, had hosted no less a dignitary than Deng Xiaoping, and had received an inscription from him on the direction Chinese education should take. The only exceptions were the two Mongolian-language schools--although these were located in a banner which is a growing tourist attraction, the schools themselves had apparently seldom been visited by foreigners, and never before by a study team of educators.

Our reception by school teachers and administrators was always courteous. Very occasionally, an administrator would harp on the Party's concern for education and its correct policies (conveniently omitting the anti-intellectualism of the Cultural Revolution), but briefings were usually confined to concise, factual presentations about the schools. Teachers were generally very forthcoming about their successes and shortcomings, and showed a genuine eagerness to compare notes and learn from American experiences. However, Chinese elementary school teachers are graduates of normal schools, and only have the equivalent of a specialized senior high school education. Thus, while they collect some data on reading errors, etc. and read literature on new approaches in teaching, they do not conduct scholarly research as it is understood in the West.

Universities and Research Institutes

Most research on reading Chinese is concentrated in the disciplines of education, psychology and, to a lesser extent, linguistics. Specific comments on the state of reading research in China are contained in the reports by individual American delegation members, but as a general comment, we may note that the sectarianism which is so prevalent in Chinese politics also appears in reading education. Reports dwelt at length on the relative merits of the "diffuse character recognition method," the "concentrated character recognition method," and the "Pinyin-aided, early reading-and-writing method," but the Americans generally felt that the distinctions between these methods were outweighed by their similarities.

Apparently, only a few Chinese who have recently studied abroad are familiar with current reading research in other countries. Thus, when the delegation expressed its willingness to give presentations at the CIER, very general topics on education research were preferred over more specific subjects. Again, many Chinese researchers seemed unfamiliar with foreign literature in their fields, but this may have been due to their focus on the Chinese language rather than on reading, and the assumption that little was being done outside China on reading Chinese.

One obstacle to developing reading research in China is the attitude that when children are slow to learn, it is because of a "bad attitude" or lack of motivation on their part, rather than the fault of poor or inappropriate teaching methods. Hence, there is little pressure to improve student performance by developing a better understanding of the reading process and improving teaching techniques. To some extent, this outlook has been shaped by centuries of Confucian teachings about human improvement through learning--the teacher is presumed to be morally as well as intellectually superior to the student, and any suggestion of deficiencies in teaching methods would undermine the teacher's authority.

Another difficulty is the assumption that because Han Chinese characters are inherently harder to learn than alphabetic languages, students "naturally" take longer to learn to read Chinese. While the difficulty of characters is undisputed, there is nevertheless a distinction between character recognition and comprehension of a written passage. Yet, this distinction is often blurred by Chinese researchers, who sometimes measure the reading levels of students by the numbers of characters learned.

Character recognition obviously requires a great deal of memorization. Chinese educators are well aware of the dangers of excessive reliance on rote learning, but there is also a tendency to assume that there must be some merit in it, as it has been used to educate the literati for over two thousand years. This outlook may, to some extent, have discouraged experimentation with new approaches to reading instruction--the study team was told by several school administrators that "after all, China has several thousand years' experience in the teaching of Chinese characters," but as one American scholar in the team later commented, China had several thousand years' experience with one teaching method, and this alone does not prove that the one method is the best of many.

Reading Outside Schools

The reading habits of Chinese adults was a subject of considerable interest to many members of the American delegation. Unfortunately, this subject could only be explored by a general survey of people encountered during the trip. Whenever possible, individuals were interviewed about their reading preferences, and in Xian, the operator of a streetside picture-book stall was interviewed about his clientele. More often, however, information was limited to qualitative observations on types of materials read, with no quantification possible.

One exception lay in the data provided by the staff of publishing houses, who were familiar with circulation figures and relative popularity of the different books they published. Although the delegation asked to visit a school library and did so, the session was a rather staged one and not a reliable indicator of students' leisure reading habits. Moreover, in most schools, library materials are issued in conjunction with classroom assignments. Thus, they only reflect the school curriculum and not extracurricular interests.

Organization of the Report

This report covers some general aspects of Chinese education and family structure as well as reading in particular. This is inevitable, as reading is taught at home as well as in schools. Individual chapters reflect the specific scholarly interests of their authors, and although not every reading-related activity observed in China is discussed, it is our hope that this report will serve as a fairly comprehensive introduction to reading education and research in China.

Irene Athey's paper on student motivation leads off by exploring an aspect of Chinese education which greatly struck all members of the American delegation. The learning of Chinese characters requires so much tedious memorization that without considerable discipline and motivation, students would have difficulty becoming literate as quickly as they do. This essay shows that while the social value of education has fluctuated with changes in political line, esteem for literacy and the expectation of undivided attention in classrooms are traditional ideas which can be traced back many centuries. The essay also looks at the social context of education in China, and compares it with that in the United States, particularly in the case of minorities.

Paralleling this examination of social factors which affect reading education is Dorothy Strickland's essay on how family structure and child-rearing practices shape children's receptivity and attitudes. If school life is seen as an extension of family life, then teachers (particularly at the lower grades) should behave as surrogate parents, providing the same love and care which children would also receive at home. Student behavior in the classroom would therefore resemble in many ways their home behavior, and learning from a teacher should not greatly differ from learning from a parent. Indeed, as Professor Strickland notes, the learning atmosphere in Chinese elementary schools often does remind one of a large happy family. In addition, her paper gives an overview of how Chinese teachers are trained to give reading instruction.

Isabel Beck continues this examination by analyzing questions of discipline in Chinese classrooms. The trade-off is between discipline and spontaneity, between quantity of information learned and creativity. This touches on a basic divergence of viewpoints between many educators, both in China and in the United States--can the learning of large amounts of factual knowledge be achieved only at the expense of student spontaneity? The present Chinese educational system appears to say "Yes," and opts for greater classroom discipline than one would see in almost any American schools. Perhaps this reflects differences in societal needs as well as educational philosophies, but, in any event, Dr. Beck's paper explores the delicate balance in Chinese schoolrooms.

Richard Venezky looks at the structure of the Chinese language from a linguistic standpoint, and highlights some of the unique features of its writing system which must be dealt with by educators. He uses examples from Chinese basal readers to illustrate how various elements of reading are taught. This paper, perhaps more than any other, will give readers who do not know Chinese a sense of the difficulties encountered by Chinese teachers. It also raises the question of literacy acquisition and offers suggestions for research, instruction, and evaluation of Pinyin as a teaching aid.

An assessment of the successes and failures of reading instruction in China is contained in Richard Anderson's essay. This report dwells on the issue of comprehension--how it is regarded, how it is evaluated and how it is achieved in Chinese schools. Professor Anderson points out the disproportionate stress placed on literal comprehension in China, and asks if this has resulted in a downplaying of other levels of comprehension. He suggests that the linking of teaching priorities to overall national needs may be one possible reason for this preference.

Mae Chu-Chang deals with a problem often overlooked in studies of the Chinese educational system--the difficulties faced by students from non-putonghua speaking areas of China and by minority students. Both groups are under pressure to learn putonghua for social advancement (and, in the case of the minorities, for intellectual enrichment as well, since the number of works available in ethnic languages is much smaller than works in Han Chinese). Although only a very small fraction of China's population speaks "standard" putonghua as its native tongue, and only 70% are native speakers of any variation of putonghua at all, the problems of bilingual and bi-dialectal education are still perceived as local, not national questions, and the national school curriculum makes no allowance for extra time to teach putonghua in areas where it is not spoken at home. The essay also discusses the effectiveness of Pinyin as a teaching aid for non-putonghua speakers.

On the more technical side, Ovid Tzeng examines the conceptual state of Chinese reading instruction. His essay points out how prolonged isolation from research in other countries has affected Chinese understanding of psycholinguistic issues, and offers suggestions for future exchanges in theoretical and experimental aspects of reading education. This paper offers a brief review of psycholinguistic research on the reading of Chinese characters, and points out that more emphasis in this area may help educators to arrive at a scientific conclusion on whether or not the use of Pinyin, which is alphabetic, can actually help in the learning of Chinese characters.

Finally, John Guthrie's paper provides a wide-ranging overview of reading habits of people in China, both in and out of school. The most populous country in the world is also one where television has not yet displaced the written media as the leading source of news; instead, the decade-long drought of reading materials caused by the Cultural Revolution has produced a great demand for all sorts of books, newspapers and periodicals. Here, an assessment is made of the reading preferences of different categories of people, and while the study team's itinerary did not include any stays in agricultural areas (the parts of Inner Mongolia visited were urban and nomadic), the paper does survey the reading preferences of Chinese city-dwellers.

* * * * * * * * * * *

Throughout this report, the term "Chinese" (language) refers to the language spoken, in many variations, by the Han national majority, and unless otherwise indicated, the specific dialect referred to is the national standard known as putonghua, or the "common language." The Pinyin system is used for alphabetic renderings of Chinese characters, except in the cases of non-putonghua pronunciations.

An effort has been made to allow the authors of the individual papers to present their own impressions of what they saw in China, rather than to produce a consensus view for the entire study team. Thus, readers will notice that some essays state that the team was greeted with applause by students when we entered classrooms, while others state that students continued to concentrate on their classwork and ignored the visitors. In fact, both situations were encountered, and each writer has chosen to emphasize what he or she had the most vivid recollections of. Similarly, certain observations are repeated in several essays, and this overlap has not been edited out because it conveys some sense of what made the strongest impressions on all the members of the group.

Most of the schools visited by the study team were "key" or "experimental" schools. These are generally above-average in the quality of teachers, students and facilities, and therefore not typical of schools throughout the country. However, many of the teaching and curricular experiments conducted in them are eventually adopted as nationwide practice, and it is fair to say that they represent the direction, though not the reality, of Chinese education.

Acknowledgements

A report such as this is the product of a collective effort by many people, not all of whom can be thanked individually here. However, special thanks for their hard and diligent work goes to Ms. Patricia E. Allen and Dr. Sandra Garcia, Project Monitors for the Office of Educational Research and Improvement, U.S. Education Department, for the China Project. Carmen Santiago of the National Committee on U.S.-China Relations labored long and hard for the publication of this report. And, of course, thanks go out to Teng Chun, Li Bo, Fu Li and all our other friends at the CIER whose cooperation provided the materials for this report.

CHINESE ATTITUDES TOWARDS EDUCATION

Irene Athey
Rutgers University

From an American perspective, the so-called problems of student motivation, when viewed in the context of Chinese schools, appear trivial, if not non-existent. Perhaps the most striking feature to the Western eye is the uniformity from city to city and from school to school that makes a visit to any classroom quite predictable. As visitors enter the school grounds they are likely to see outdoor morning exercises in progress and to hear chanting in unison from several classrooms. Indoors, any classroom entered at random is likely to evoke reminiscences of a vanishing rural America. Typically, between 40 and 60 pupils sit in rows at fixed double desks with hands folded in front of them, paying rapt attention to the teacher who stands on a raised platform at the front of the room. They read in unison from a textbook, occasionally responding to questions or reading individually when called upon by the teacher. In brief, there is no spontaneous conversation among the children or with the teacher, no freedom of movement, no projects, and apparently no learning by any method other than rote.

With one or two notable exceptions, the scenario depicted above obtained in all the schools the American Reading Study Team visited. Granted the dangers of generalizing from a small sample (we visited 15 schools in five cities), what we saw were clearly some of the best that China has to offer. They were the kind of model demonstration schools that parents long to have their children attend. So it does not seem improper to surmise that schools around the country emulate, or attempt to emulate, the teaching methods and curriculum we observed in these schools. Indeed, other reports confirm this assumption (Bergen, 1983; Butterfield, 1981).

For visitors who are impressed by the universally polite and obedient behavior of Chinese children, it is important to remember that Americans may well be unique in the easy-going familiarity that characterizes much of their social interaction. By contrast, formality extends to virtually every aspect of life in China. As might be expected, the schools are the socializing agency where the formal behaviors appropriate to diverse situations are instilled.

The content of the prescribed textbooks is designed to reinforce the moral precepts and standards of conduct that are an integral part of instruction. The first sentence a kindergartener learns to read is "I love the mother country." This rhetorical statement not only sets the tone for what will follow in subsequent texts, but alerts the children while they are still very young to the societal expectations they will be required to meet for the rest of their lives. Posters on the classroom walls carry a similar message extolling patriotism and hard work. Entire lessons may be built around the theme of service or the need to set one's sights ever higher in pursuit of the common cause. Bergen (1983), for example, observed three-year olds folding containers for the neighboring factory and children in the countryside conscientiously sorting out the seeds with worm holes so that the peasants would plant only healthy grain "to grow food for the people." As in all aspects of daily life in China, politics is pervasive in education.

In spite of what strikes the American eye as regimentation and outmoded teaching methods, the children seem to be learning. Moreover, they appear to be happy and enthusiastic about their school experiences. Other reports (e.g. Bergen, 1983), remarking on the special quality of Chinese children, use a variety of expansive adjectives such as "healthy, happy, motivated, competent, confident, courteous, and helpful" in describing the children they observed.

> Our delegation had seen children of communism and knew what to expect. But China was surprising. It was the first communist country in which young children looked and acted like those in the Party posters. They were smiling; their heads were held high; and, above all, they were working hard... (But) any thought that these were exploited automatons lacking in childhood spontaneity or warmth was quickly dispelled as the little ones ran forward to take us by the hand and returned a squeeze with a giggle (Bergen, 1983).

The above paragraph represents quite accurately the treatment accorded the Reading Study Team in all the schools we visited. The first intimation of the warm welcome we were about to receive came in the large signs posted at the entrance doors or on adjoining walls. Typically, the principal and a contingent of the school staff were waiting to greet us as we climbed off the bus and to usher us into a large room where refreshments were served. If we encountered children on the stairs or in the corridors, their attitude was usually one of intense, but polite, interest. When we entered the classroom, the whole class rose to its feet to shout a welcome in unison, or to greet us with a round of applause. Once the visitors were settled, however, the students returned to their lesson and paid no further attention to the foreigners present. Even when the lesson appeared to us to deal with rather uninteresting subject matter, we rarely saw any daydreaming or "goofing off" at any age level from kindergarten to college.

Of course, we were not prepared to accept this phenomenon at face value. In the discussion periods following our visits we asked the teachers about behavior problems and children who had difficulties with learning. The kinds of response we received were illuminating.

> Our schools ask that each teacher love every student, because without love there is no teaching, and this includes knowing more about each student--likes and dislikes, strengths and weaknesses. If we have a discipline problem, the teacher has a heart-to-heart talk with the student after class, and sometimes a talk with the parents (Jingshan School, Beijing).

> Teachers place a lot of emphasis on teaching to the student's level, on individualizing teaching. For example, if the question is difficult, the teacher will ask the better students, but if it concerns knowledge, the poorer students will be asked. This is a form of encouragement to stimulate interest. When correcting work, the teachers give specific assistance (Xian Secondary School, Xian).

> When you have students who have the ability but are not

> interested, that presents a difficult situation, because the curriculum is general (i.e. the same for all students). We talk to the parents, and we tell the students that, as long as they meet the requirements, they are free to pursue their own interests. But everyone must pass the exam. They have to pass all 12 subjects each year. If they fail three, they are not promoted. The parents cooperate because they want their children to pass (Xian Secondary School, Xian).
>
> We've been trying different methods, and I can't say with complete success. The parents don't have the secret either. The teacher first approaches the student as a friend to try to understand why there is a problem. We never warn or threaten until these remedies have been tried (Xian Secondary School, Xian).
>
> Beginning teachers have the most problems with discipline. What advice do we give them? To follow two principles: love their students and understand them. There is always conflict between students and teachers; the teacher wants the students to learn, and the students want to play. The teacher must ask, "What have I done wrong?" The first thing is to understand the reasons for behavior (Experimental Elementary School, Shanghai).

However, the subject of disruptive or unmotivated students never came up unless we raised it, and is clearly not at the forefront of Chinese teacher's consciousness, as it would be in many American schools. Again, this experience paralleled that of the earlier delegation. When the South Carolina visitors asked one of the principals about the incidence of hyperactivity, aggression, juvenile delinquency, and apathy, or whether the school experienced more serious problems such as autism, psychiatric disorders, juvenile delinquency, and mental retardation, their inquiries were met with a total lack of comprehension. To the question "What do you do with children who learn more slowly than others?" came the happy response "We work with them, and then they learn" (Bergen, 1983).

There is no reason to believe that either the teachers we spoke to or those interviewed by the South Carolina delegation were dissimulating or trying to put a good face on a bad situation. By and large, the children are well behaved and they do learn. The question is why, under the conditions that obtain (apparently universally), should this be true. We agree with Bergen's conclusion that

> From a Western perspective, the methods and content of the Chinese school appear sterile and stultifying. The context in which they occur, however, may be more vitalizing to the development of human beings than the increasingly isolated word we create for our children. In short, the lesson of Chinese education for our society lies outside the classroom (Bergen, 1983; italics added).

While our delegation was not specifically seeking "lessons for our society," we agree that an explanation for the phenomenon of Chinese student behavior lies as much outside the classroom as within it. In brief, it must be sought in the past and more recent history of the Chinese people and in the prevailing culture which, in spite of the upheavals of the past 30 years, is still firmly rooted in 2,000 years of tradition.

It would be unfair, however, to leave the reader with the impression that the typical Chinese school is a vast wasteland with little stimulation appropriate to children. In terms of material resources, they are indeed poor. Though teaching aids and items such as pictures on the walls seemed sparse by Western standards, the classrooms were usually bright and airy. The blackboard that occupies the entire rear wall in most classrooms would be filled, in addition to the aforementioned slogans, with student-initiated items, such as riddles, exercises, and news. At the Xian Secondary School a playground wall was given over to the student clubs and filled with geometry theorems, "ten literary greats of the world," etc., indicating that at least some degree of student initiative is tolerated, or even encouraged.

Another source of stimulation for students is the universal emphasis that seems to be placed on music and drama. It was quite usual for the delegation to be entertained by several classes (all sporting Young Pioneer scarves) who regaled us with spirited song and sometimes dancing, to the accompaniment of a teacher playing the accordion (all elementary teachers are required to learn either the piano or the accordion). We will not readily forget the earnest expressions of the young children at the Youth Road Elementary School, Xian, or the joyous faces of the Mongolian students as they leaped around the improvised stage performing their cultural dances. Occasionally, the delegation was asked to reciprocate with an American song, which was always received with delight in spite of the dubious quality of the singing. A cooperative rendering of the Chinese version of "Frere Jacques" with the entire elementary school in Hangzhou earned us an instant invitation to return.

The Zhabei District Children's Palace in Shanghai was an excellent example of this emphasis on the artistic. Here the entire building is given over to activities such as dancing, drama, puppets, orchestra, science, computers, and play equipment. Children are referred by the teacher or principal of their school, and spend a full or a half-day weekly or biweekly. It was not clear to us that this program was confined to the gifted, though all the children we saw seemed above average in intelligence.

As might be expected, teaching style ranged from dull to dynamic. We witnessed a particularly lively English lesson at the Jingshan School in Beijing, with games and competitions, music and drama (all using props) conducted at a pace calculated to keep students on their toes. Granted that a more probable classroom scenario would find students analyzing the passage "Fragrance of Bamboo in the Moonlight" or the occupation of Taiwan during the Ming dynasty, still it was encouraging to find examples such as these in some of the schools we visited.

Even the more unskilled or inexperienced teachers did seem to care about the children in their charge and to demonstrate a genuine concern for their learning. Individual students were called on frequently and were given the time and attention necessary to ensure that they had grasped the point or could perform a skill correctly. There was liberal use of praise and little or no punishment, sarcasm, or other indications of disrespect for the children's abilities or feelings.

We might mention in passing that many of the lessons we observed were conducted against a background of noise that would be considered intolerable in American schools. Since all windows were open to admit the May sunshine, street sounds combined with music from other classes' morning exercises to compete with the teacher for the students' attention. From the other side would come the sounds of recitations chanted in unison and conversations of people in the corridors, all echoing around the cavernous buildings. Apparently the students are habituated to this noise level, but it frequently posed an obstacle to the visitors who were trying to discern what was happening.

Another factor that undoubtedly contributes to student motivation is the clear demarcation between work and play. While the lesson is in progress, however boring it may seem to be, there is little inattention or misbehavior, but when the lesson is over, there is a noticeable relaxation and the children proceed to talk and play together, run around and, generally, let off steam, without restraint or reprimand from the teacher. These periods of free activity, though brief, offer a safety valve that makes discipline throughout the rest of the day possible.

While all these factors, individually and jointly, are not inconsiderable, they cannot totally explain the phenomenon of student motivation in Chinese schools and colleges. For that, we must look to culture and tradition. It may be profitable, therefore, at this juncture, to examine some historical precedents and some of the more recent events that have had an impact on the Chinese educational system.

Historical Background

Although China has the world's oldest continuous history and culture, this culture flourished on the basis of a feudal system that kept most of its peasants poor, illiterate, and outside of the political process. Within this system, however, intellectuals were a class apart. As far back as the Sui period, the rigorous civil service examination based on the "Four Books" and the "Five Classics" provided the ruling emperor with an educated bureaucracy, while allowing a small proportion of intellectuals from landlord families to enter into officialdom. Hence, education was prized for the opportunity it presented, however remote, for escape from a life of manual toil, and the distinctions between the peasantry and the intellectuals (e.g the long nails that bespoke of leisure) were jealously preserved for that reason. Even today, when individual entrepreneurial activity frequently carries its own rewards, the intellectual is still revered and respected. The scholar who does not become an official may not be as wealthy as the merchant, but certain prerequisites still make the life of the mind an attractive alternative to mercantile pursuits.

The period of foreign domination, especially following China's defeat in the Opium War, provided an initial overlay of missionary schools that gradually formed an independent educational system. In due course, this system became consolidated into a joint institution known as the "China Educational Society" (China Handbook Editorial Committee, 1983). Thus, a system of religious education became superimposed on an essentially feudal, elitist foundation. During the more than 20 years of Kuomintang rule, the United States strengthened its influence and control over the structure and content of Chinese education. But throughout this period, the schools were used for purposes of political indoctrination, and secret organizations existed to spy on the activities of progressive teachers and students. Moreover, after 100 years of foreign influence, 78% of the population in China as a whole, and over 95% in the rural areas, remained illiterate.

The founding of the People's Republic in 1949 brought about enormous social and political changes that affected every one of its citizens. The changes have been described graphically by many authors. Before Liberation, starvation, misery, and death were commonplace. Today, while poverty is widespread, there are, among its one billion citizens, many who remember the old days with fear and loathing. Although they now live under a totalitarian system that controls virtually every aspect of their lives, few people would wish to return to the chaos and corruption of the Kuomintang regime. If the people seem happy, it is because they know only too well what misery is like.

> In a country where misery and want were the foundation of the social structure, famine was periodic, death from starvation common, disease pervasive, thievery normal, and graft and corruption taken for granted, the elimination of these conditions in Communist China is so striking that negative aspects of the new rule fade in relative importance. The dominant fact is that for China's working class, which is to say over 80% of the world's most populous country, the lid of exploitation has been lifted (Tuchman, 1972, p. 3).

The economic and social improvements of the Communist regime were also reflected in fundamental educational changes. Schools of all levels and types developed rapidly. By 1980, more than 90% of school-age children were enrolled as students, and 20% of the total population were attending some type of school. We cannot, therefore, discount the fact that school is a relatively new experience for a large segment of the population, an experience that reflects new opportunities and the possibility for a better life. Parents and grandparents especially can appreciate the value of schooling and can impart this appreciation to their children and grandchildren.

It seems likely that the frequent and violent shifts in policy that characterized the early period of the Communist regime, culminating in the excesses of the Cultural Revolution, served only to reinforce the idea that education is important. For, despite its name, the Cultural Revolution was anti-intellectual and anti-educational. When opposition within the Chinese Communist Party proved to be surprisingly widespread, Mao used forces outside the Party, including the People's Liberation Army and the youthful Red Guard, to purge the dissident factions.1 These groups were "to learn revolution by making revolution," which they proceeded to do, first by attacking the "four olds" (old ideology, thought, habit, and customs), and then by mounting an assault on the Party structure itself. Mao thus unleashed an unprecedented degree of ideological warfare, of which the schools and universities were early victims. During the period from 1966 to 1976, many schools and universities were closed, and teachers and faculty were sent to the countryside for "retraining." Hence a large cohort of students lost a vital ten years of their education, a fact of which they are painfully aware. This realization was brought home to us when the delegation visited the Qianjiang Adult College in Hangzhou, where we were highly impressed by the ability and enthusiasm of the students and the caliber of the questions they posed to us. When we remarked on this fact, the principal responded that many of the students were trying to make up for lost time.

It is also interesting to reflect on the fact that, during our entire stay, the question of dropouts and completion rates were never brought up by our hosts. While the data clearly indicate that the dropout rate is quite high (see below), especially in the rural areas, the advances in universal literacy have been so great and so rapid that the dropout rate is not currently perceived as a major problem. In these terms, the contrast between a city like Beijing and (say) Chicago, where the dropout rate among the Hispanic population is 80%, is striking.

The fact that students were deprived of opportunities for education cannot in itself, however, furnish the explanation as to why two societies, both providing a system of readily accessible public education, offer such a marked contrast in the value their students place on that education. The educational literature in the United States has offered several hypotheses to account for the disaffection shown by a large proportion of students from lower-class homes. In the 1960's especially, when this phenomenon assumed monumental proportions, we were told that students were either rejecting the Protestant ethnic with its accompanying materialistic values, or that those who were unable to find social acceptance and material prosperity through educational channels were unlikely to see the relevance of schooling to their present or future lives. There may be much truth to this thesis, although there is some counter-evidence to suggest that parents of lower-class children still regard education as the conduit to a better life. Be that as it may, there remains in the perception of many young people in America discontinuity between the effort they expend in school and the tangible rewards in the world at large. In China, by contrast, the relationship is clear and unambiguous. Moreover, both are under the control of the State, so that the fact of chance, or luck, is minimized. Moreover, it is not entirely irrelevant that schools in China are not totally free, and that parents are anxious to protect the investment they have made in their children's education.

In this context, it seems necessary to reiterate that, in spite of the rapid advances in mass education, which have enrolled some 90% of the school-age population, only 60% of the enrolled students actually complete the five years for primary school graduation, and only 30% are regarded as having genuine primary level competence. At the secondary level, the long-term goal of achieving universal education has given way to some extent to the effort to consolidate and improve the quality of key middle schools.* Prospective middle school students must take an entrance examination to gain admission, particularly for admission to the outstanding key schools in the urban areas. Given this limited enrollment, a graduate of a middle school is considered an educated person in China.

As the teacher from the Xian Secondary School pointed out, examinations are an ubiquitous and important feature of Chinese education, and becoming more so. Beginning with the entrance examinations to key schools, competition may be discerned at every level, becoming more intense as students proceed up the educational ladder. One may ask why, in a country where nearly everyone is assured of a job, is the competition so intense. One reason is that not only is success in examinations seen as the route to a better job, but education is also important for improving one's status within the Party.

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*The New York Times of Saturday, December 19, 1981 carried an article entitled "China Begins to Dismantle an Elite School System" of key schools. Nevertheless, key schools were still very much in evidence (in fact they were the schools we visited) in May, 1984.

Since 1980, under the leadership of Deng Xiaoping, China has formulated an ambitious plan to move the country from its present underdeveloped state, with its attendant vestiges of feudalism, squarely into the forefront of 20th century scientific and technological advances. Known simply as the "four modernizations" (agriculture, industry, national defense, and science and technology), this program places a premium on the need for an elite corps of persons with advanced training.

> Deng is basically a non-ideologue, often called a "pragmatist" by Western analysts. That word, however, has a negative connotation in China as one lacking in principles, and Deng rightfully rejects it. Deng is an ardent patriot, dedicated to China's taking its place among the world's great powers. Although committed to the general ideals of socialism, Deng is flexible in his approach to problem solving.
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> Like others in the post-Mao leadership, Deng is a strong believer in effective bureaucracy. He has great faith in the CCP and its ability to lead China to the goals of modernization. He is determined, however, to reform the Party, believing that the Cultural Revolution weakened it by bringing in a large number of unqualified leaders. He also believes that unless a bureaucracy is well provided with educated specialists and experts, it cannot carry out effective policies (Suettinger in Bunge & Shinn, 1981, p. 365).

Though a significant proportion of the population may, with good reason, be somewhat skeptical of this latest in a series of wide swings in policy, nevertheless it does appear that the country, under the leadership of Deng Xiaoping, is irrevocably committed to this new course of action. To an enterprising and ambitious student, the opportunities to be opened up by the shift to a market economy, to foreign trade, and to scientific and technological advancement must be readily apparent.

As previously noted, Chinese children and youth, from a very early age, are conditioned to think in terms of service and the good of the people. On the other hand, members of our delegation were impressed by the "success stories" that appeared in the daily press, extolling the virtues of some local boy or girl who, through individual entrepreneurship, had "made good." In the China Daily of Tuesday, May 22, 1984, readers were regaled with the story of Zhang Shijun, aged 32, who accepted the government's challenge to increase his plant's puff pastry production to 450,000 yuan a year, on the understanding that if he failed, he would be discharged from his position as director with a reduction in pay. The same issues on page 6 carried the tale of "Wu Wanxu, Executive

Peasant," who "feels no qualms about calling himself president of the family business that last year grossed a record 108,000 yuan processing bean noodles, soft drinks, bean curd, and sausages." Ren Xuping, who "seemed like a failure" to his father when he did not pass the entrance examination for senior high school four years ago, "has now at the age of 20 helped to find a cure for a prevalent rabbit disease and has published a book on raising rabbits" (China Daily, Monday, May 28, 1984). In brief, while there are strong incentives to remain in the educational system for the rewards the government dispenses to its elite, for those who do not succeed in the academic enterprise, other avenues to the good life are becoming available.

Undoubtedly, both the perception of individual opportunity and the goal of service to the common good can be powerful motivating factors. In America, the predominant philosophy is individualism, with occasional appeals to humanitarian considerations superimposed. China's traditional system of values has evolved over many centuries, and is an amalgam of ideas that have their roots in Confucianism, Taoism, Buddhism, and other influences. A primary concern in all these strands, especially in Confucianism, centered on the need for a society to be organized around an established hierarchy of social roles and relationships, if a harmonious order was to be maintained. Under this system, all citizens were socialized to the requisite acceptance and performance of their designated roles, education being the preferred method of socialization. Deviant or unorthodox behavior is regarded as a sign of failure to provide the proper socializing influences. Still, the social hierarchy was not entirely immutable, and upward mobility, at least in theory, was possible, even for the poorest peasant. Even the emperor could be deposed for improper or unbecoming conduct, and the "mandate of heaven" occasionally passed to a new dynasty whose early leaders were sometimes of humble origin.

Although the West's emphasis on individualism, human rights, and equality never assumed primary importance in traditional China, foreign conquest and trade in the nineteenth and twentieth centuries exposed many educated Chinese to Western values, and eventually a Western doctrine, Marxism, was proclaimed the official political philosophy of Chinese Communist society. In effect, then, we have in China a reversal of events in the West, whereby a doctrine that placed primary importance on maintenance of the social order and service to the common will was paramount, with a superficial overlay of individualism and egalitarianism grafted on to the basic philosophy. It is an open question which of the two systems is better equipped to imbue its children and youth with the motivation to pursue and excel in educational endeavors. While it would not be true to say that there is a movement away from the monolithic emphasis on patriotism and service, China is now experimenting with an appeal to individualistic motives.

In summary, a culture and tradition going back two thousand years has contrived to develop in its citizens a respect for, and adherence to, social norms and appropriate behavior toward others and a suspicion of doctrines that glorify individual rights and opportunities. At the same time, conformity to social expectations carries its own potential rewards of advancement within the framework of the social hierarchy. While this conformity is achieved through socialization, there lies behind these methods a wide range of coercive measures for dealing with deviations from the expected norms. The combination of these political, social, and economic factors creates a system of rewards, punishments, and expectations that an individual must find well-nigh impossible to resist. Education is simply an integral part of the total system functioning to reinforce both traditional values and whatever new policies the people in power happen to espouse. It can come as no surprise, therefore, that students enrolled in the educational system behave and perform in the same way as do all citizens in the rest of society. No part of the system is divorced from any other part. Education is but one element in a totally integrated social system.

The Family

If the school is a powerful socializing force, the family is hardly less so. Although the family is a near-universal human phenomenon, the strength of this institution varies enormously from society to society. Throughout history, however, the solidarity of the Chinese family has been legendary. Chinese families have always been notable for their strong bonds of loyalty and obligation. The hierarchies that obtained in the larger social order were reflected in the traditional relationships that stressed filial obedience on the part of younger generations to their elders, the submission of females to males, and the subordination of individual rights and preferences to the communal advantage. These principles resulted in such well-known customs as the extended family, arranged marriages, child betrothals, and the bias favoring male children in all respects. So ingrained were many of these traditions that the conservative nature of the Chinese family came to be viewed in many quarters as a major impediment to national progress and to efforts to forge other forms of social cohesion. In particular, the Communists found many aspects of traditional family life offensive and, immediately upon the assumption of power in 1949, moved to eliminate such features as arranged marriages, marriage by purchase, inequitable property rights, and so forth. Actually, these measures were in many respects but a continuation of legal reforms initiated during the Nationalist era in an attempt to modernize the Chinese family system, and in any case, met with only limited success. In recent years, inducing family change has not had a high priority among the Communist leadership (Whyte in Bunge & Shinn, 1980, p. 118), and there is some evidence, especially in the rural areas, of economic and demographic policies resulting in a return to former practices such as female infanticide that were thought to have been eradicated. Two thousand years of tradition die hard in spite of the long reaching arm of the revolution, and the further from Beijing, the more difficult it is for the bureaucracy to monitor compliance.

In a population now estimated at one billion people, the individual might be expected to assume little importance, and historically this may have been the case. As far as children were concerned, it seems as though this was never true. Perhaps because of the close ties that have characterized the Chinese family for many hundreds of years, children traditionally have been highly valued, and continue to be valued today. Male children especially were viewed as a hedge against old age, and possibly still are in the agricultural regions.

Since the children are, by Western standards, so well-behaved, discipline does not seem to pose much of a problem for Chinese parents. Perhaps many of the behavior problems of American children stem from their parents' desire for them to be independent and curious, since very young children cannot always discern the appropriate times and contexts for assertion of their independence. Chinese parents, on the other hand, do not appear to place such a premium on independence, but are more concerned to establish close familial bonds.

> From birth, the Chinese seem to strive to create a sense of closeness with their offspring (Americans might call it smothering or dependency). Also, many Chinese mothers still swaddle their babies, binding their legs and sometimes their arms in cloth so that they cannot move.
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> Chinese infants sleep in the same room and often on the same bed with their parents, or grandparents, until they are two or three years old. The Chinese are invariably surprised to find that American infants can go to sleep in a room by themselves, without their mother or father to nurse or change them during the night. For Chinese, who must live in small apartments, this closeness is due partly to economic necessity, but it produces an intimacy that most American children do not get.
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> The Chinese also do not let their babies crawl on the floor, as homes are often poorly heated. When parents take their infants out, many carry them rather than push them in a stroller, giving them a somewhat less independent view of the world than their American counterparts (Butterfield, 1981).

Discipline tends to be gentle but firm and, therefore, loving. It is, perhaps, this powerful combination of love and discipline that is most influential in molding the Chinese national character (insofar as it makes sense to talk about a "national character"). Under the loving care and attention of their parents, Chinese children blossom and are, in turn, loving and lovable. Under threat of withdrawal of this love, they are motivated to behave and to achieve. There is no discontinuity between the children's experiences in the home and the treatment they receive in school.

> Part of the explanation for Chinese children's good behavior, some American psychologists who have visited China feel, is that Chinese parents and the teachers in nurseries and kindergartens tend to be warm, kind, and attentive. During a day in the factory nursery school, this correspondent did not witness a single incident of physical punishment or harsh verbal rebuke by a teacher.
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> "We never spank a child that is naughty," insisted the school's director, Li Jianzhi, a 39-year old woman with short cropped hair and a radiant smile. Instead, we try to persuade them to behave properly. If one boy pushes another, I ask him to help the other child up and then to apologize. Usually that is all that is necessary." And her serene confidence that her method would work may indeed be infectious (Butterfield, 1981).

Interestingly enough, the concern that seemed to be uppermost in the minds of teachers during our visit was the possibility that the recent policy to limit the size of families to one child will result in a generation of "spoiled" children. Since this generation will shortly be descending on the schools, the teachers are bracing themselves for this eventuality.

The Role of Women

The changes in family traditions perceived by the Communist government as necessary were, in fact, one aspect of a more comprehensive economic and social program designed to change the role of women. Whereas traditionally women were expected to be subservient to men, the CCP adopted female equality as one of the cornerstones of its policies. The most central concern was to mobilize women for the work force and to incorporate them into the system of production so that they could, in Mao's words, "hold up half the sky." Apparently, China's post-Liberation leaders believed that socialist rule and full participation in the work force would bring sexual equality in its train. The Marriage Law and other provisions were designed to hasten this process (Whyte in Bunge & Shinn, 1981, p. 121).

As with other aspects of the revolution, progress in achieving equality for women has been greater in the urban areas, but even there has fallen short of expectations. The influx of women into the work force has been accompanied by substantial improvements in their economic status and roles, but occupations are still largely segregated by sex (with women occupying the lower-paid jobs) in spite of much publicity about women moving into traditionally male jobs. Moreover, full employment carries its own price. For example, a husband or wife may be relocated to a distant city, with family reunions possible only once or twice a year. If the family is fortunate enough to remain intact, the wife bears the burden of domestic chores in addition to outside work. Access to higher-level jobs is also limited, and the gap between the educational status of men and women, though shrinking, is still considerable, especially at the higher levels. Moreover, in spite of the rhetoric and, possibly, sustained effort on the part of the government, women continue to be greatly underrepresented in leadership positions and in membership in the Communist party.

Still, a social revolution does not take place overnight, even when a country's leaders passionately believe in its principles and use the full extent of their power and the legal system to implement their reforms. Changes in attitudes are accomplished slowly, especially where loss of traditional power or status is involved. It would not be unreasonable to suppose that women in China, as in other societies, are becoming impatient with the slow progress that is being made toward full equality and participation in the society. However, we saw no evidence in our travels or in our preliminary reading that such is the case. As with other disadvantaged groups, such dissatisfaction, in itself, might well be a motivating force toward further education, but in China, this does not seem to be a major factor. As before, we can only fall back on a theory of relative deprivation to explain this phenomenon. Before Liberation, most women, along with a large proportion of men, were peasants, leading a marginal existence, with little hope for improvement of any kind. Their present status, though falling far short of the ideal, must appear relatively favorable.

Women seemed to be quite well represented in the schools and colleges we visited. All the elementary and many of the high school teachers were women. We encountered several women principals and, in the colleges and universities, a substantial number of women faculty, and a few women administrators. Officials of the local educational authorities were as often women as men and similarly, at the Central Institute of Educational Science Research, several researchers were women. Unfortunately, we were not afforded the opportunity to talk to individual students, so it is impossible to say whether these role models functioned as an inspiration for women students.

Undoubtedly, many of the social ills that plague other societies are present or incipient in China. It would be too great a strain on credulity to believe that, given the marginal conditions, including poverty and crowding, under which many of her people exist, the incidence of wife-beating or child abuse is low or negligible. But the combination of centuries of habituation and child-rearing practices that foster cheerful acceptance, conformity to communal expectations, and an orientation to the needs of others, rather than oneself, has served to produce a society in which, to all appearances, many people are happy, outgoing, and sufficiently contented with their lot to entertain few thoughts of rebellion or the desire to change the system. In any case, as we have previously noted, the price of rebellion is very high. Nor, apparently, is the rebel viewed as a folk hero to quite the same extent as in America. Fraser recounts the story of a young American named Orville Schell who, in 1975, managed to spend several months working alongside Chinese at the Shanghai Electrical Machinery factory and subsequently, in one of his essays ("Private Life in a Public Culture"), examined the role of heroes in American and Chinese culture:

> Singular heroes hold a deep fascination for [Americans]. there is an attraction to the maverick, even the misfit, that I think is perplexing for the Chinese. Even in China, Americans insistently probe for information about these elements of society, elements that the Chinese clearly view as aberrant (Fraser, 1980, p. 99).

The temptation to "stand out from the crowd" is clearly less compelling to the Chinese than it is to Americans.

Ethnic Minorities in China

Even a casual acquaintance with the literature on ethnic minorities in the United States is enough to demonstrate the wide cultural differences that pertain between these groups and the mainstream society. In particular, differences in values and motivational factors are often profound. The general apathy and disinterest in school among American Indian populations is a case in point and has been well-established. If the Chinese authorities have similar problems with their ethnic minorities, they do not admit to them. The American Reading Study Team was privileged to visit two schools in one banner of Inner Mongolia. From this extremely limited experience it appeared that the citizens of that banner had accepted the policies of Beijing, without renouncing their native culture and traditions. In particular, they seemed to have internalized the necessity for all students to be bilingual in the "common language" and their native dialect. However, members of the delegation had some doubts as to how long the Mongolian culture was likely to survive under the pressures to modernize and to become part of the larger Chinese society. Other minorities (e.g. Tibet) have proved less amenable to such absorption (Fraser, 1980, p. 110 seq.), and presumably this resistance funds its parallels in the attitudes and conduct of their citizens, including their school children.

On the final afternoon of our stay in Inner Mongolia, we visited a well-known pagoda in Huhhot, the capital city of this "autonomous region." Two of our party who were ahead of the others reached the top of a long climb of stone steps to be greeted by a small group of youths who were somewhat intoxicated. It transpired that they were recent graduates of the local university, and, as one of their more loquacious members informed us in passable English, as yet unemployed. The small park was littered with beer bottles and other signs of unbridled celebration.

At the burial site of the first emperor, where the now-famous terra-cotta figures were unearthed, we also found ourselves talking to a youthful hanger-on who seemed desperate to put his English to use as a tour guide. While these are slender threads of evidence, we surmise that, in spite of a good deal of "feather-bedding," there may be an unemployment problem among Chinese youth. Among other signs of alienation, it appears that the dropout rate in many schools is on the increase.

Research Issues

Conducting research in the affective domain is a difficult enterprise at best. While there are many theories of motivation and personality, they do not lend themselves readily to the generation and confirmation of hypotheses that are essential to the scientific process. Even when strong hypotheses can be formulated, suitable tests are frequently not available. In the United States, where student motivation is often a problem of monumental proportions, sustained research efforts into affective causes and correlates of student achievement must continue. The excesses of the Cultural Revolution have left China with many basic educational problems, not the least of which is to rebuild or renovate schools that were destroyed and provide a greater wealth of books and materials for the student body. These urgent necessities leave little money for research, so it is imperative that priorities be established. Since motivation is not a critical problem, it would seem wise at this juncture for Chinese researchers to concentrate on reading problems related to the psychological and instruction aspects of reading comprehension. Moreover, the research establishment is probably better equipped at this time to investigate problems in applied, rather than in basic, research.

A Final Note

Much of the professional life of teachers in American schools is spent in trying to discern the motivations of their students in the belief that, if only they could find out "what makes Johnny tick," they would then would possess the key to their students' learning. Such preoccupations seem to play little part in the lives of Chinese teachers. In the first place, East Asian societies tend to place less emphasis on individual motivations and feelings. Moreover, Chinese teachers are quite ambivalent about analyzing student problems to find the root causes. They do not think of the affective and the cognitive life of students as causally related, but rather as a single whole that it is their responsibility to educate. They do not perceive themselves as dealing with but a single aspect of the students in their charge, but as working to develop the inseparable entity they call "heart-and-mind." Moreover, since mind and character are a single unit, there is no reason to divide these spheres of influence and to relegate certain educational matters to agencies other than the school. American parents often become indignant with the idea of the school teaching their children values, since they regard such teaching as the province of the home or the church. Chinese parents, by contrast, expect teachers to inculcate their children with the proper attitudes and values, and also expect that these values will be a continuation of those taught in the home. Hence, there is no discontinuity and no opposition or tension between the teaching of the home and the school. Such a state of affairs, whether one considers it to be happy or not, is possible only in a monolithic society that espouses a single set of values imposed by its top leaders. We pay a heavy price for our democratic, multicultural society. By the same token, the Chinese pay a price for social uniformity and a contented populace. With "modernization" and its attendant social changes, the time may come when they decide that the price is too high.

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EARLY CHILDHOOD FOUNDATIONS FOR LEARNING TO READ IN CHINA

Dorothy S. Strickland
Teachers College, Columbia University

Upon visiting a new culture, one is quickly reminded of the enormous amount of time and study required to even begin to get a "feel" for how the insiders of that culture learn and teach. A three week glimpse into the lives of a people whose language and lifestyle are so different from one's own is almost like a one second peek through the keyhole of a door leading to a completely different world. Nevertheless, I feel, as do the other members of the Reading Study Team who went to China in May, 1984, that we learned a great deal. Certainly we learned enough to reflect upon, to share, and to savor for many, many years to come.

My observations of early childhood education in China represent an outsider's brief and limited view of a small part of a vast and complex country. They are largely my impressions, occasionally sprinkled with some hard data, about such things as parent-child interaction, educational policy and research, curriculum, and teacher training. My purpose was to look at all of these as they relate to the language and literacy development of young Chinese children.

Parent-Child Interaction

Since much of what children achieve during their early years in school is determined by the kinds of experiences they have at home, it was important to learn as much as possible about child rearing practices and family life in China. Although actual visits to Chinese homes were not a part of our itinerary, there was ample opportunity to observe young children with their parents on the streets, in shops, and at the many parks, zoos, and cultural exhibitions that we visited.

Everywhere we traveled, we saw parents and young children together. Since few Chinese have baby carriages or strollers, children were often carried in an adult's arms. This physical closeness naturally lent itself to lots of touching, stroking, and cuddling as they went along their way. Often a toddler might be seen propped for a ride upon dad's shoulders. These youngsters sat happily perched as they viewed the world from a lofty position, assured by the firm grasp of a loving adult.

Throughout the day, but especially in the early morning hours, children were seen being transported by adults on bicycles. The children often rode on special seats attached to the rear or front of the bike for that purpose. A few bikes had special carriages attached to the side for transporting the very youngest. Presumably, many of these children would be left at day care centers or kindergartens while their parents worked. Often, these facilities are conveniently located in the factories where parents are employed.

During the day, we frequently saw older adults, usually grandparents, playing with children outside the home. Since both parents are apt to work, fathers were just as likely as mothers to be seen caring for young children during the day. We were told that couples frequently opt to work on two different shifts so that child care and housework may be shared. No matter who the caregiver happened to be, there was abundant evidence everywhere we went of the genuine fondness the Chinese have for their children.

In addition to the fondling and cuddling of babies, adults were constantly playing and chattering back and forth with children. I spent an afternoon observing parents and children at the zoo. What I learned from what I observed there was reinforced over and over again throughout the trip. Repeatedly, I saw adults whose attention was completely focused on the child in their care. They seemed endowed with infinite patience as they waited while two small hands stopped long enough to explore an intriguing stick or rock. If such an item was brought to the adult for inspection, it was always discussed with great interest until the child's attention wandered or was captured by something new.

One quite unfamiliar and highly apparent aspect of parent-child relationships in China was the virtual absence of crying, temper tantrums, or misbehavior on the part of the children. Equally apparent was the absence of scolding, threatening, and child-spanking on the part of adults. The deep affection and patience demonstrated by parents for their children may account for the extraordinarily compliant, well-behaved children we observed in the kindergarten classrooms. Here again, teachers and aides appeared to be warm and nurturing in their manner. It may be that the high degree of congruence between the way children are treated at home and at school is an important influence on what, indeed, were perhaps the most accepting and contented children I have ever observed. The tradition of nurturance and stability characteristic of the Chinese family has clearly been an asset to the education of their young children.

One might wonder whether anything negative could threaten such a long tradition of positive child rearing practices. Yet, there is a potential wrinkle in the fabric of that very fine tradition and it was discussed with us by Chinese educators and written about in The China Daily during our visit. The problem is associated with the current campaign for one-child families. It was reported that the natural tendency of the Chinese to be attentive, loving parents and caregivers is frequently carried to extremes when only one child is involved. The result is a child who receives an excessive amount of attention coupled with extreme pressure to succeed during the early, formative years and beyond. As one educator put it, "Every parent wants his child to be a dragon." (Emperors are often referred to as dragons by the Chinese.) Another educator complained that, "Parents tend to spend lavishly on the single child for clothes and toys. They want their child to read and recite classical poetry at preschool age--something they cannot understand." If the fears of these educators are well placed, the consistency of values and standards of behavior, existing for centuries in Chinese society and acting as a critical bridge between home and school, may be upset. All this has the potential for a highly negative and troublesome outcome.

Educational Policy and Research

Although China's Ministry of Education is responsible for setting general policy and curricular guidelines for kindergarten, early childhood education varies from school to school and region to region. Differences may depend upon resources and language needs or may simply be a matter of what content is to be emphasized. In the Guidelines for Preschool Education, published by the Ministry of Education in 1981 (People's Publishing House, Beijing, China), the overall purpose of preschool education is stated as, "To promote Communism, intellectual abilities, morality, physical abilities and service to people and country; to provide foundations of education in a socialist country; and to develop well rounded children." Certain of these goals might be found in any kindergarten curriculum in the United States.

Various characteristics of children age 3-6 years are provided so that teachers might be guided in instructional planning. For example, teachers are reminded that young children "generally have a low ability to concentrate. However, they will concentrate on things that are of interest to them; their memory is developing and depends on concrete, sensory experiences; and their imaginative and creative powers must be developed and linked to vocabulary." Teachers are cautioned that, "Instruction must move from concrete to abstract, and it is through language and experience that children learn to analyze and synthesize." The importance of early childhood education is emphasized through such statements as, "early educational experiences leave a trace on the child's entire life. A well rounded early education must be provided in accordance with the characteristics of that age group."

Curriculum Content is listed as health, physical activity, morality, language, general knowledge, calculation, music, and art. According to the guide, content should be sequenced and higher levels should reinforce lower levels.

Children are to be organized in preschool according to age: Low level, three-four years; Middle level, four-five years; High level, five-six years.

Language Curriculum

Overall Goals:

Correct pronunciation
Learn conversational (common language) vocabulary
Thinking
Oral expressive ability
Some appreciation of literature
Minority language children should master their own language

Specific Objectives:

Low Level

1. Understand common language. Learn correct pronunciation of common language, especially sounds with which they have difficulty.

2. Vocabulary: to be able to use frequently used words--nouns, verbs, pronouns, adjectives.

3. Learn to understand adults and peers and to converse with other people.

4. Be able to use simple sentences to talk about main focus of a picture.

5. Enjoy hearing teacher tell stories and read aloud nursery rhymes. Gain initial understanding of story.

6. Memorize eight to ten nursery rhymes.

7. Learn one or two stories.

Mid-Level

1. Continue to learn common language; particularly pay attention to tones,

2. Develop vocabulary and master more nouns, verbs, pronouns, adjective, adverbs and conjunctions and understand their meanings.

3. Pay attention to others when they talk and answer questions.

4. Use complete sentences to talk about content of pictures and use new words in describing pictures.

5. Understand stories, poems and memorize main points. Recite eight to ten poems. Retell three or four simple stories. Enjoy looking at picture books and listening to radio programs for children.

High Level

1. Speak common language in everyday life and pay attention to pronunciation.

2. Further develop vocabulary and be able to describe events using

   - location words
   - comparative words
   - connectors, such as "because"
   - synonyms.

3. Listen to other people politely, converse with others, and express themselves well.

4. Use connected discourse in telling stories from pictures and be able to self-correct some of the errors in their speech.

5. Read aloud eight to ten poems with expression. Retell three to four stories. Criticize other people's storytelling. Develop appreciation of stories, pictures, children's broadcasts and retell where appropriate.

Methods for achieving these curricular outcomes involve play as a basic activity in the preschooler's daily life. Five types of play are described: creative play, (role play, organized play, and demonstration play), physical play (exercise), intellectual play, music play and play for entertainment. The guidelines also stress that the natural environment and useless materials are to be utilized, toys and activities should be within easy reach of children, and that teachers should develop the children's active participation fully. Free selection is to be encouraged in order to develop the child's intellectual ability and personality.

An extensive interview with Mrs. Shi Huizhong, Deputy Director of Preschool Children's Education Research Division of The Central Institute of Educational Science Research in Beijing, revealed that a new early childhood research project is underway. Its purpose is to develop new guidelines for kindergarten education, based on scientific studies. Ultimately, a set of instructional materials would be developed.

This research will largely focus on child language acquisition. According to Mrs. Shi, the close relationship between reading and oral language is a fundamental principle guiding this research. Areas under investigation are: phonology, vocabulary, sentence structure, and expressive ability. The study is designed to yield both longitudinal and cross-sectional data. Seventy children, seven in each of ten provinces, make up the population for the longitudinal portion of the study, which involves three years of data collection. Cross sectional data will be collected for three age groups (3-4, 4-5, and 5-6 years) over a period of three days.

Samples of natural speech will be collected with a tape recorder under various conditions at home and school. The data will be analyzed to yield descriptions of the various features of language development evident among the three age groups. This is an extremely ambitious study and Mrs. Shi has high hopes for its impact on preschool curriculum.

Three Chinese Kindergartens

The experimental kindergarten at Beijing Normal University. Upon entering one of the kindergarten classrooms at the experimental school of Beijing Normal University, I was struck by its similarity to many kindergarten classrooms in the United States. The room was spacious. The walls were colorfully decorated with teacher made pictures and examples of children's work. Plants filled the large windows along the wall overlooking the play area. A variety of materials could be seen around the periphery of the room--small plastic building blocks, an easel, outdoor play equipment, a flannel board, and a large abacus were among them. A small fish tank was located just off the doll corner, which, although sparsely equipped, contained sufficient supplies for young children to recreate their versions of family life. A small number of paperback books had been placed in a rack in the rear of the rooms and, although they were few in number (only five or six), they looked well worn by children.

Twenty-four children, five to six years of age, were seated at neatly lined rows of tables. A workbook had been placed near each child. These were the children of university faculty members and this classroom was one of the most inviting that we visited during our entire stay in China. Experimental or key schools such as this one were funded much more generously than others. The increased resources were to be used for the development of new curriculum and innovative practices for implementation on a wider scale.

As we entered the room, the children stood and clapped to welcome us. They were smiling, well dressed, and healthy looking. Characteristic of the many we saw throughout our visit, they were dressed in bright colors. Flashes of red, yellow, pink, even lavender dotted the room. We sat along a bench in the rear and proceeded to watch a highly structured, formal reading lesson. The teacher, an attractive young female graduate of Beijing Normal University, began by systematically teaching five characters to the children. First each character was written on the chalkboard. It was pronounced by the teacher, who was imitated by the children in group recitation style. After all the characters had been introduced in this way, a series of short stories or sentences were read aloud by the teacher from the board and pupils were asked to identify those characters that were among the new ones they had just learned. A discussion of the meaning of the characters followed. Because some of the new characters had the same sound as others they had learned (homophones), individual children were called upon to explain their meanings as represented in the text. As is the custom in China, each child stood to recite for the group. A rather special feature here, however, was the exuberant clapping by classmates that followed each successful response. Although the lesson was extremely formal by U.S. standards, there was an obvious attempt to stress meaning throughout.

This part of the lesson was followed by a game designed to reinforce the characters that had been taught. The teacher had prepared five flash cards. Each flashcard had one of the five characters under study written on it. The cards were spread across the table nearest to the front of the room. Individual children were then called to the front. As the teacher called out a word, the child had to select the correct card. After several children had been given turns, the game continued with the boys competing against the girls. In this version, two children were called to the front of the room. Each child had a set of cards from which to select. The task involved selecting the correct card before your opponent. This version of the game was accompanied by loud cheering and clapping by the children. The score was kept on the chalkboard by the teacher.

The third portion of the lesson involved a chalkboard activity in which various characters representing components of words were listed in two columns on the board. Children were asked to link or draw lines between two components, one from each column, in order to make a word. U.S. teachers might compare this with a word building activity designed to form compound words. Throughout this activity and other chalkboard work, brightly colored chalk of a variety of hues was used to help differentiate and emphasize certain features of the characters.

During the final part of the lesson the pupils were asked to open the workbooks that had been placed on the table before them. They were instructed to open to a particular page from which they read a series of sentences orally and in unison. The teacher guided the reading by joining with them at various points and by walking among them as they read. We learned that these books had been developed by the teachers in this school as a part of their experimental program.

The entire reading lesson lasted for thirty-five minutes. Throughout, the children were extremely attentive and appeared in every instance to be on task and performing with success. In fact, the high number of correct responses by all of the children gave us the impression that this may have been a review lesson of material covered many times before. We were told that 35 minute reading and math lessons were held four times a week for this age group.

A younger group of children from four to five years of age were also observed doing similar reading activities. Their math and reading lessons lasted 25 minutes each. Between each lesson, the children were involved in approximately 30 minutes of large muscle activity, usually outdoors. As we left the class of younger children, we could see the first group outdoors on the lawn of the play area. They were happily engaged in circle games, ball playing, and various other outdoor activities.

A brief tour through the building revealed it to be a pleasingly decorated and well equipped facility. Each classroom was extremely neat and arranged almost identically to the one described earlier. Toilets and washroom facilities were located next to every classroom. A room containing at least two dozen small frame beds covered with brightly colored cotton quilts was also nearby each classroom. One large room with a piano was used for music, dance and movement activities. Various areas of the building were decorated with children's work. One display caught my eye because it looked so much like the language experience stories seen in U.S. kindergarten classrooms. Indeed, we were told that these were the products of an activity in which the children had drawn pictures about something of interest to them and had either dictated a brief sentence or two to be written by the teacher along the side of the picture or had written a few words about the picture themselves.

The typical day for a kindergarten child in this school begins with exercises at 8:30 a.m. These are physical exercises done in unison by the entire population of the school. They are usually done outdoors to music piped over a loudspeaker in the exercise area. Exercises are followed by a morning consisting of classes (usually 30 minutes or less, four times per week) in math and Chinese (reading) with additional blocks of time scheduled for general knowledge, art, physical education and music. One hour of supervised play is also included each morning. Lunch begins at approximately noon and is followed by a nap until 2:30 p.m. From 2:30 to 5:30 p.m., children are again engaged in supervised play activities. The children five to six years of age are scheduled for one additional class during this time. Dinner is served at 5:00 p.m.

We were able to reflect on our observations with the faculty of Beijing Normal University and the teachers whom we had observed. We learned that these children probably received a great deal more emphasis on reading than children in most of the kindergartens throughout China. This was attributed to the educational status of their parents, the location of the school on a university campus, and its designation as an experimental school. We also learned that, as in most preschools in China, children here were grouped according to age. Classes were comprised of children three to four years of age, four to five, and five to six. Two teachers and one aide were assigned to each classroom.

We were told that most of these children come to school knowing some characters and that their parents would most likely have read aloud to them extensively. A collection of children's stories entitled 365 Nights was mentioned as a favorite parent source for reading aloud. I was soon to learn that 365 Nights would be mentioned on every occasion that I asked about reading aloud to the children. When asked if teachers read aloud to children, I was told that they did not. They did tell stories to the children, however.

Visits to other kindergarten classrooms revealed a very different picture than the one just described. Most were far less well equipped, almost barren by comparison. We visited one kindergarten program, however, that offered an interesting contrast to the one at Beijing Normal University, particularly in its curricular emphasis.

The Experimental Kindergarten at Zhejiang Preschool Teachers Training School. The experimental program at the Zhejiang Preschool Teachers Training School appeared, in many ways, to be the kind of program in which parents anywhere would be delighted to have their child enrolled. The building consisted of six attractively decorated rooms. Each room was connected to its adjacent rooms and opened onto a large courtyard area. Beyond the courtyard were well kept grassy areas used as a playground. The equipment here would delight any child or grown-up for that matter. Climbing bars were shaped like fish. Swings were formed like peacocks. An enormous stone carved elephant lent his trunk for use as a sliding board. Children played around a fountain, enjoying the water but making certain they did not get wet. I counted 11 pieces of uniquely designed outdoor play equipment.

On the day we visited, many of the classes were being held outdoors in the courtyards. We were impressed by the range and variety of activities going on. A large circle of children was seated just outside the music room. We watched as they engaged in a number of singing games and movement activities. We were captivated by the rhythmic and graceful movements of these tiny children as they performed rather intricate steps in time with the music.

We entered a second classroom which was furnished and decorated much like all the others. Tables and chairs painted bright blue were arranged in various areas of the room. Each offered children a different activity. Small groups of children were clustered at each table. They might be working with small blocks, cutting paper, or looking at books.

In a third room we found children heavily engrossed in a simulated restaurant activity. There were several areas of work. In one area cooks dressed in high white hats and aprons were busily preparing food. Prepared food had been lined up, cafeteria style, on a long table near one end of the room. Customers moved through a line selecting food and checking out their purchases with the cashier, who took great care in ringing up the cost of items on the toy cash register provided. Small groups of restaurant patrons sat at the tables enjoying the products of the day's menu. We were told that these children had visited a restaurant, helped plan the simulated environment, and took turns dramatizing the various roles.

Another class had all of its learning centers set up outdoors on the courtyard area. At one table children were engaged in paper sculpture. At another they were molding clay. Browsing through picture books occupied the children at still another table. One group of children was engaged in an activity designed to increase eye-hand coordination. They practiced moving marbles from one cup to another, using chopsticks - a feat that would have proved difficult for some of us in the study team. Yet another group of children was engaged in testing which objects among such materials as paper clips, tacks, and paper scraps could be picked up with a magnet. Just beyond this group, four children were busily playing school. The "teacher" stood near her desk and gave directions to a willing group of three pupils. Unlike all the others, this group appeared to work without adult supervision.

In another area, some distance from all the others, a group of 36 children watched intently as a puppet show was being performed by a teacher and two older (upper primary grade) children. The elaborately dressed puppets performed on the stage as the story and music were heard via a record player. All of the materials were teacher and child made.

When we asked about the reading and language program, we were told that each class spent two periods each day in oral language activities. Little was said about what this actually meant except that two key activities were the "reading" of pictures by children and telling of stories to children by their teachers. Teachers in this school deemphasized formal reading and language activities. Emphasis was placed on "early all-round education, rather than intellectual development." It was further explained that, "Since language is integrated through daily living, we stress integrating language activities into the total curriculum."

Although designated as an experimental program and associated with a teacher training institution, this was a neighborhood school and children went home for lunch each day. We were told that the resources here were only "slightly" better than those at other neighborhood schools in this area. Compared to other kindergartens we visited, however, the facilities here were far superior to all but those described earlier at the Beijing Normal University.

The Residential Kindergarten in Inner Mongolia. Another contrast in early childhood education was provided when we visited a residential school in Inner Mongolia in an outlying area of the Banner of the Fourth Prince. It contained three preschool classes which were very scantily equipped, almost barren except for tables and benches. These children come to school speaking Mongolian. Instruction in reading begins in preschool in the mother tongue and continues through the early grades. Beginning in the third grade, children start reading instruction in Han, the common language. Written Mongolian is quite different from the written Han Chinese that these children must eventually attempt to master. Mongolian writing moves from the top to the bottom of the page rather than from left to right; and, it is alphabetic rather than ideographic. No wonder these children are said to have difficulty with language learning. Their problem is similar to that of many children who enter school speaking a language or dialect other than that of Han, the officially designated common language. However, most children, throughout China, begin instruction directly in the common language, whether or not they are conversant in it.

Teacher Training

There are separate schools for training kindergarten teachers in China. We visited one such institution, the Zhejiang Preschool Teachers Training School in Hangzhou. The kindergarten program connected with this school was one of those described earlier.

Established in 1953, this three year teacher training program was described as a middle (secondary) level technical vocational course. The level of education of preschool teachers in China is, therefore, equivalent to a U.S. high school graduate with an added career orientation. The school has slightly more than 480 students, recruited from the entire province of Zhejiang. As is customary of preschool teachers in China, all the students at this school were women.

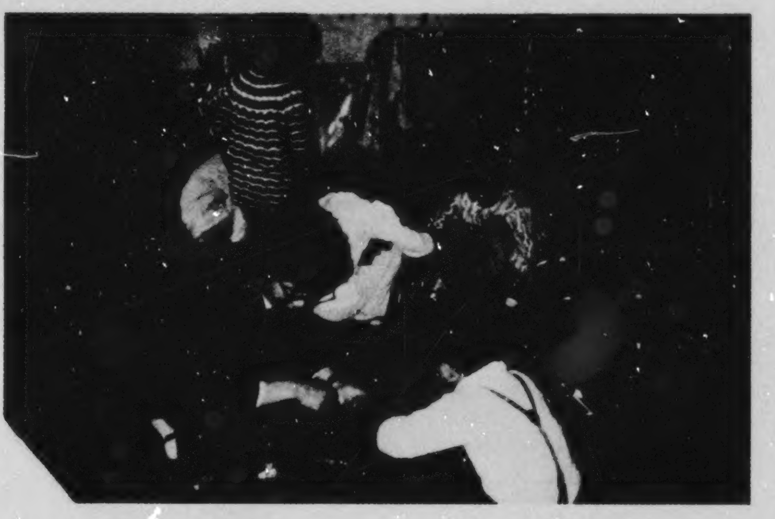
Competency exams are required at various levels of education in China. These exams largely determine whether or not an individual is eligible for more advanced training and what form that training will take. At the end of junior high school (equivalent to our eighth or ninth grade, depending on the school), these students were given a test along with all their classmates. The fact that they are enrolled here rather than in a secondary school for the preparation of elementary school teachers or a secondary school designated for the preparation of students for university work (high school teachers are trained at the university with others preparing for "advanced" careers) indicates that they probably did less well than many of their contemporaries on these tests. Career options are largely determined by one's ability to perform well on standardized examinations and to some extent by the expressed career interests of the students themselves.

In addition to the junior high school exam requirements, each of these students had been personally interviewed by a faculty team at the Zhejiang Preschool Teachers Training School. Criteria evaluated during the oral examination are enunciation, singing voice, basic ability to draw, and general appearance. We were told that only one out of five candidates is selected from all those who pass the unified exam and apply for oral interviews. Tuition, room, and board are paid for by the government.

Prospective early childhood teachers must study all the subjects regularly taught at the high school level - Chinese, history, science, and so on. In addition, they must take a series of early childhood education courses. These consist of preschool teaching, child psychology, hygiene, and various methods courses. These students take classes in music. They must also learn to play the piano, accordion or both. Art classes emphasize drawing and handicrafts. Instruction in dance, sports, and some study of children's literature is also required.

We observed a dance class in which students dressed in blue and white jogging attire moved gracefully to music as they practiced various ballet movements under the direction of a Russian trained dance instructor. The slim poised bodies of these young women were further evidence of the rigorous criteria tied to the personal interviews held upon entry to the school. In the music class that we observed, students demonstrated good singing voices as they read music, sang in unison, and gave brief solo performances.

Field experiences are sprinkled throughout the three year program. During the first year, students spend one week observing in kindergarten in order to get a sense of what goes on in these classrooms. Second year students observe for two weeks. These observations are tied into what is under study in their child psychology and hygiene courses. In addition, these students prepare games and storytelling activities for use with the children.



Third year students spend one-half day each week as interns in kindergarten classrooms. One month before graduation, they spend their entire time in residence at a preschool site. Three students are assigned to a kindergarten classroom. One member of the faculty accompanies each team of students to their site and remains with them for the entire month. We were told that students had been placed in 100 different kindergartens during the 1983-84 school year.

When asked about the content of their language and reading methods course, faculty members replied that there were two areas of focus. First, considerable emphasis was placed on upgrading the language development of the prospective teachers themselves. Since these are very young students (much younger than comparable pre-service early childhood teachers in the U.S.), and since they were largely from the rural areas, there is a heavy stress on pronunciation of the common language. Students listen to broadcasts, read aloud to each other, engage in speech and storytelling contests and practice oral language skills in small independent study groups. Second, they are taught how to evaluate and develop children's pronunciation of the common language. In addition, they are taught to design language activities for children emphasizing oral language in the course of daily living. Two examples of activities that are encouraged are: (1) storytelling from pictures and (2) systematic observation and discussion of interesting things, such as animals.

As teacher trainers and researchers, we were interested in how this faculty kept up with the new knowledge in their field. They reported that in addition to attending regional and national conferences, bi-weekly meetings were held on campus so that they might share and discuss new ideas. Two professional journals, one from the U.S. and one from the Soviet Union, were subscribed to and translated for their use. Unfortunately, no one present was certain of the names of the two journals. A provincial early childhood journal is another important resource and one in which many of these instructors had published.

Conclusion

These are obvious differences and similarities between Chinese and U.S. preschool education. The greatest differences are rooted deep in the cultural distinctions between the two nations. While the Chinese tend to emphasize responsibility to the group, we tend to stress the rights of the individual. Reverence for authority and its associated ideological principles fit well in Chinese history. The need to test and challenge authority is quite consistent with the nature of society in the U.S.

Our children are encouraged to question and to "think for themselves." Chinese children are much more apt to seek and accept answers from those in charge. Both views have advantages and disadvantages for maturing learners. Ideally, responsible individuals, at any age, will exercise some degree of compliance and respect for authority. Certainly, a sense of social responsibility toward the various groups to which one belongs is a sign of maturity. At the same time, a society is unlikely to grow unless its members are willing to test the status quo, to accept personal responsibility for individual behavior and to actively participate in socially responsible societal change.

Both countries place great value on their young. Both are aware of the importance of early childhood education and the potential for establishing lifelong habits for learning and social interaction. Yet each country has a considerable distance to go in providing the necessary resources to insure top quality early education for all its children. This is becoming increasingly important as the number of working mothers and fathers in both countries continues to rise. Needed research in China is not unlike that needed in the United States. Even though the U.S. is much more advanced in its research achievements, the basic questions remain the same for both countries: What types of curricula offer the best balance of cognitive, socio-emotional, and physical development for young children? How can we identify and minimize potential failure in young children? How can we as educators work more cooperatively with the home to promote the overall development of the young child? These are critical questions. The Chinese are seriously seeking answers and so are we. It is my hope that we might continue to share our concerns and our insights for the betterment of young children and their families in both countries.

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STRUCTURE AND FREEDOM IN SOME CHINESE CLASSES

Isabel L. Beck
Learning Research and Development Center
University of Pittsburgh

Introduction

The purpose of this paper is to communicate a sense of the instruction "climate" in some Chinese classrooms. Its focus, then, is more on the structure of a class than on the substance of the lesson. The topics that will be discussed are associated with classroom management, the teacher's role, students' behavior, and other relatively content-free classroom processes. Others in the delegation focused on more reading specific topics (methods of teaching character recognition, issues associated with comprehension instruction, etc.). Of course, there will be some overlap. Reading specific issues are included here, just as some general classroom issues are found in other papers.

This kind of paper requires some caveats. First, it must be noted that it is impressionistic and based on discursive notes. In addition, most of the classroom descriptions come more from what I saw than from from what was said. Although we had the benefit of a number of translators, during classroom observations I tended to concentrate on taking notes about what I was seeing and asked for a quick whispered translation only when the context indicated a speech act was feedback about an answer, directions for an activity, or other such general processes. In addition to what I saw and some translated classroom speech segments, the paper includes what we learned from school personnel both in formal briefings prior to classroom visits and in several very productive discussions after we had visited classes in their schools.

One other caveat is required. Although the delegation walked through several elementary classes in a remote area of Inner Mongolia, time constraints prevented opportunities to observe them. The classes in which we observed were located in four large Chinese cities and were, for the most part, at schools designated as "key" or "experimental" or attached to a university or specialized institute. Only information from these classes is incorporated here. Hence, one cannot generalize to less "special" schools in even these same urban areas and certainly not to schools in rural areas where approximately 80% of China lives. Finally, it should be noted that the focus of this paper is on elementary classes.

The paper is organized into three sections. The first section, entitled "Aspects of School and Class Structure," provides necessary background information about teachers' and students' class schedules as well as a fairly detailed description of a specific second grade reading lesson. In the second section, "Lesson Characteristics," six features derived from the second grade lesson example are discussed and observations from other classes about these features are incorporated. The final section provides some brief "Comments and Opinions."

Aspects of School and Class Structure

Teachers' and Students' Schedules

In general, students in China are scheduled for five 40 minute classes per weekday. There are usually three in the morning, a long lunch break--enough time to take the traditional nap--and two in the afternoon. Many schools also have Saturday morning classes. The total number of student classes a week, then, is approximately 28. Teachers, on the other hand, including elementary teachers, typically teach 12 to 14 classes per week. The rest of their time is devoted to class preparation and study. Those teachers who wish to engage in these activities away from the school building may do so.

All students are assigned homerooms but not all teachers in a given building have homeroom classes. Those who do are usually Chinese language teachers whose additional duties in this capacity include knowing the homeroom students well, monitoring their progress in all subjects, and communicating with parents.

In contrast to most American elementary teachers, who teach all academic subjects (sometimes art, physical education, and music, too), Chinese elementary teachers tend to be single subject teachers. Unlike the system in most elementary schools in the United States whereby a teacher stays with a class of students for an extended time, perhaps for the entire day, the Chinese academic teachers go to students' homerooms for scheduled classes. Between each 40 minute class, even in the first grade, there is a free-time break of at least ten minutes (often longer) when students may do what they want, including playing in the hall and yard.

A Second Grade Reading Lesson

When our delegation appeared at the door for the scheduled visit to a second grade reading class in Shanghai, the students rose and as the teacher "warmly welcomed the American delegation" they applauded us into the classroom. On a word from the teacher, they seated themselves and waited as we took our places on folding chairs at the back of the room. The rooms in this part of the school were built around a large court yard. Open windows provided excellent cross ventilation. There were plants on the window ledges, some decorative posters and pictures on the walls, and some large, red, cut out Chinese characters above the front chalkboard. I had learned from numerous other such character displays that they were adages urging good work and study: "Learn for the mother country;" "Aim higher each day."

About 60 children occupied five rows of two person wooden, table-like desks, six desks deep. They were dressed much like American children, but perhaps not as stylishly. In addition, virtually all of them wore red bandanas, the symbol of membership in the Young Pioneers, around their necks. They stood when their teacher moved to her accustomed place behind a low podium at the front of the room, and received her formal greeting, which they returned. The lesson was officially in progress. A character recognition "flashcard" exercise began. The teacher held up a card, most of the children raised their hands, and the child who was called upon stood to respond. The teacher provided feedback in the form of yes, good, and the child was told to sit down. Occasionally, the teacher withheld feedback and asked the class, "Is s/he right?" whereupon the class would call out in unison, "Yes."

Attention was next directed to some characters that had been drawn on the chalkboard. As the teacher explained the characters she traced parts of them with colored chalk and added some Pinyin in a different colored chalk. Before the class read them in unison, several children were called upon to read the characters as the teacher pointed to them with a wooden pointer.

The teacher then produced a piece of slate on which sentences containing the new characters had been written. Several she had taken intact from the students' book and several she had made up. The slate was hung on chalkboard. As the teacher pointed to the characters the class again read in unison.

The children were directed to turn to a page in their books. The teacher made some brief comments (presumably about the content of the selection) and asked for a volunteer to read. Most hands were raised and the student called upon read loudly, with confidence, and was complimented. The class was then told to read a segment by themselves "softly but aloud." Indeed the children read "aloud" "softly" (i.e., so as not be to heard by others, but to hear oneself), and at their own pace. Thus, I witnessed what years earlier I had read about as common practice in Chinese classrooms--all students reading aloud at different places in the text.[1]

The children read "aloud" "softly" by themselves for about two minutes.

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[1] When we walked through a school in Inner Mongolia, some classes were reading from Mongolian texts in this manner, but somewhat differently than the second grade reading class. Their reading was much louder and of longer segments. It looked more like descriptions I had heard of groups reading from the Koran.

Then the teacher directed that the same segment be read again aloud and in unison. (This latter kind of group reading was evident in the other elementary reading classes we observed.) It is worth remarking that during these unison readings, a group pace is established and maintained without teacher intervention. When the second graders read in this way, the teacher watched and occasionally looked at her book, but she never read aloud with the children.

More of the text was covered through individual oral readings, group reading "aloud" but "softly," and unison oral readings. On several occasions the teacher called on four or five students who stood and read aloud, in turn, a sequence of several sentences. Between the various oral readings of the selection, the teacher sometimes made a brief comment about the content. However, most of the discussion and questions about the content occurred after most or all of the text had been read aloud. The teacher then asked a number of questions, elaborated upon answers, and extended the discussion beyond the text. At one point she brought out a large drawing she had made of a monkey that had been described in the text and used it to elicit from the children descriptive phrases about the animal. She called on a child to imitate the expression of the monkey described in the book. The student did the imitation with enthusiasm and a ripple of giggles went through the room.

After the discussion, the teacher called on the ten children in two specified rows to read a segment aloud. Again, she did not participate in the oral reading, but the children all started together, and read with what I began to notice was a stylized intonation. When the group completed the reading, the teacher said, "This group read well with serious purpose." When a bell rang in the hall outside as she was speaking, no child indicated that s/he was aware of the disturbance. The teacher continued speaking for perhaps two minutes more and then said, "This is the end of the lesson." With that, the children stood and the atmosphere in the room changed dramatically. Talk began, arms went around friends, an intentional push could be seen, and some children left the room.

Lesson Characteristics

The description of the second grade reading class provides illustrations of six topics which will be discussed below--Attention, Discipline, The Teacher's Role, Whole Class Instruction, Student Opportunities to Respond and Receive Feedback, and Context Defines Climate.

Attention

My single most profound impression of Chinese classrooms is the apparent undivided unrelenting attention given to teachers during a 40 minute period. The children in the second grade class sat tall, looked at their teacher (or their book when directed to do so), and hardly ever during our visit did a curious head turn to the back of the room where we sat. Even when there were distractions--our departure from a lesson in progress--attention was diverted only momentarily. On two such occasions, I dropped back a minute after we had exited walked past the door of the room we had just departed, and found the lesson proceeding. It can be noted that close attention was not confined to classes in academic subjects and those that expected our visits. It was also found in classes where our visits were unexpected, and in art, music, and physical education classes.

At this point, it is important to make a distinction between cognitive attention and behavioral attention. Cognitive attention implies that an individual is processing information; whereas behavioral attention implies that an individual appears to be engaged with the information at hand but actually may not be processing the material at all. Our observation of a formal kindergarten reading class with five-and-one-half year olds at the school associated with the Beijing Normal University will be helpful in making clear this difference.

The class was comprised of 25 to 30 children, two to a desk, with the teacher at the front of the room. Over the course of the 25 minute class (15 minutes shorter than elementary and high school classes) I did observe a few children wiggling in their chairs, a few turning their heads momentarily to look at the visitors, and a few whose eyes wandered occasionally from the teacher to their desks. These momentary lapses notwithstanding, the kind of apparent attention these very young children gave to the teacher was close to what we saw with older students.

During our observation, I was seated at the side of the room where the faces of many children were visible. I soon became aware of three boys whose attention was more apparent than real. When the teacher was talking or pointing to examples on the chalkboard, their expressions belied their understanding; when they were told to turn to their books and read aloud, these children weren't sure what page they should have been on. After the class, I questioned the teacher about the three boys, and she confirmed my observation that they were not engaged in the lesson. "Their progress," I was informed, "has been slow."

These children illustrate the distinction between attention that involves the mental processing of lesson-salient material (cognitive attention) and apparent attention that involves adapting the outward appearances associated with mental processing (behavioral attention). The latter kind of attention has to do with acceptable deportment and is much closer to notions of discipline than it is to what psychologists are concerned with when they discuss attention as a component of information processing. Obviously, there is no way to know the proportion of students whose apparent attention was also real. However, it is certainly safe to assume that the three kindergarten boys have some counterparts in many classrooms.[2] Let us turn now to a more direct discussion of discipline.

Discipline

I began asking questions about discipline at the discussions we often had with teachers and other staff after our classroom visits. At first, my questions tended to be general. "The children were exceptionally well behaved, so I wonder if you ever have any discipline problems?" This question usually resulted in smiles and assurances that there were discipline problems. In response to "What do you do when there is a discipline problem?" the answer was always "We talk to the children and, if necessary, to their parents. Sometimes we visit their homes." "What do you say?" I asked. The typical response: "Why it is important to pay attention and do their work."

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[2] During a dscussion with some high school teachers in Xian, they noted that lack of "cognitive attention" was not much of a problem in high schools because admission to high school is very selective. Thus, students who go that far tend to be "diligent." They indicated that the problem was most evident with junior high school students and attributed the reason to their developmental stage (i.e., early adolescence) and to less stringent selection criteria for junior high school admission.

After several similar answers I realized that the question of discipline was being interpreted not as disruptive behavior, but as inadequate academic performance. Hence, I changed the question to: "Have you ever had a student whose classroom behavior was such that it disrupted the class?" and had opportunities to ask it of three persons. From a primary grades language teacher in Shanghai with 20 years experience and after what appeared to be deliberate thought, the answer was no. I received the same thoughtful no when I questioned this teacher's principal, who was at least 70 years old. From a fourth-grade teacher in a different city, the answer was an emphatic no. This sampling suggests that over 60 years of teaching experience (a minimum estimate of the sum of the three individuals) identified not one disruptive student.

Obviously, such reports cannot be taken as objective evidence. However, after some reflection, I suggest that the reports of this particular sample were accurate, or at least close to accurate, for the following reasons. First, the three taught in "special" schools in urban areas so their pupils came from the more educationally motivated environments. Second, the teachers I questioned were considered excellent, even exemplary. After all, their classrooms were selected for our scheduled visits. Third, and more generally, there are the social and cultural factors which exert not a little influence on Chinese educational institutions. Traditional Chinese culture includes regard for education and respect for authority, except during the Cultural Revolution. Indeed, the Cultural Revolution may have intensified in the parents of present Chinese students the force of traditional values associated with education. Chinese children enter school shaped to behave well.

The Teacher's Role

The description of the teacher in the second grade class shows her to be highly controlling. It is very important to point out that this should not be interpreted as synonymous with a negative environment. As Brophy and Good (in press) have pointed out:

> (There is a distinction between) emotional climate factors (positive or negative affect exhibited by teachers and students) and teacher management (or control) factors. These factors are independent: highly controlling teachers are not necessarily rejecting or otherwise negative, and teachers who exert minimal control over pupil behavior are not necessarily student oriented or other positive in their effect (p. 25).

Before leaving this point, it can be noted that I found the emotional climate in this "highly controlled" classroom fairly pleasant. At times there were smiles from both the teacher and the pupils.

The second grade teacher, as all other teachers we observed, had control of student behavior and instructional activities. First, let's consider student behavior as exercised by rules and procedures or by directive. Clearly, a lot of control of student behavior is achieved in Chinese classrooms through rules and procedures, many of which are common to all grades. Take for example the matter of handraising and standing for recitation.

With one exception, which will be noted later, the Chinese students we observed did not call out. Whether it was to answer a question or volunteer to do something, students always raised their hands. However, they did so with restraint; I never saw an outstretched arm waving. The arm may have been outstretched and raised high, but it was stationary. In a number of classes (including the second grade reading class) we observed a way of hand raising that was unusual. Here the elbow was bent so that the forearm formed a right angle with the upper arm. A young guide who accompanied our group explained it as a way young children are taught to raise their hands because this particular bent elbow manner discourages hand waving, which is not acceptable.

The bent elbow form was used by all children in some elementary classes, by some of the children in other elementary classes, and was not in evidence with high school students. It, along with other "training" procedures, resulted in a routine that, except for one minor "infraction," was universally established--no call outs, raise your hand with restraint.

The one exception to the routine occurred at an advanced high school English class attached to the Foreign Language Institute in Shanghai. The students were exceptionally able, their teacher was outstanding, and the class was small (approximately 20).[3] At one juncture, the students were offering short descriptive phrases in response to the teacher's questions. The pace for calling upon students was brisk, and soon several called out spontaneously. "One at a time, please," the teacher said, and immediately hands were raised. Here the briefest of directives reinstated the established routine. The only other verbal behavior management directives witnessed occurred in a formal "kindergarten" reading class for four-and-one-half year olds in the school attached to Beijing Normal University and this in the mildest of forms.[4] On several occasions the teacher told a child to pay attention, to sit tall.

An interesting nonverbal directive occurred in the second grade reading class described earlier. During the observation, the teacher left her place at the middle of the room and moved to a boy who was seated in an outer row, facing away from the visitors' chairs. She put her arm on his shoulder and with a measured facial expression registered, for his benefit alone, her disapproval of some behavior I had not seen. In our discussion after the class, I asked about the incident. The teacher blushed and explained that the child had been sleeping. She also explained that he had stayed up late the night before at a school approved event. Our observations suggest, then, that student behavior is controlled through the exercising of rules and procedures that get established early; at least by the second grade, the need for directives is minimal.

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[3] In this high school, only foreign language classes were small. These same students took all their other subjects in large groups, 50 plus.

[4] We observed two kindergarten classes in this school, the one for five-and-one-half year olds mentioned earlier in the Attention section, and the one for four-and-one-half year olds discussed here.

Now, let us consider the teacher's control of the instructional activities. The teacher in the second grade lesson example controlled all instructional activities, as did all the teachers we observed. That is, the teacher delivered the instruction herself as contrasted with depending upon curriculum materials (e.g., worksheets, lengthy independent reading). To be sure, students interacted with textual materials, but the interactions were short (never more than several minutes) and the teacher directed when and in what form they took place. All the teachers we observed stood and were actively engaged in teaching throughout the 40 minute class period. However, such active teaching does not necessarily entail a fast pace, as one could sense variation in pace among teachers. Active teaching simply means that the teacher is the major delivery system.

The Chinese teachers we observed did a lot of talking. In the lower grades teachers talk was frequent but not long as it was interspersed with student activities. In some of the upper grades it was close to lecture style. In any case, the content of teacher talk was mostly substantive, with very minimal behavior management verbalizations.

Whole Class Instruction

Chinese teachers do not divide classes into subgroups. Discussions with school personnel showed that some of them were aware of the use of small group instruction in the United States. They were aware that this allows more attention to specific student needs. However, they have great difficulty imagining how several groups are managed in the same room by one teacher. This is not surprising because, as discussed earlier, the teacher controls all of the instructional activities. Another reason they have difficulty with the use of small group instruction is their concern, expressed by several, for how a teacher could prepare so many different lessons.

The teachers we observed were clearly prepared. There is no way to tell if this is the norm. The teachers we talked with appeared nonplused at the thought of teaching a class without having prepared for it and equally nonplussed at how American teachers can handle so many classes. Preparation for teaching is institutionalized to the extent that the workday includes significant time for doing so. This, plus the tradition of teacher control of instructional activities, makes it difficult for Chinese teachers to consider small group instruction, even though the more concerned teachers recognize the value of small group instruction for "some things."

Student Opportunities to Respond and Receive Feedback

Except for some special situations (e.g., preschool groups, advanced language classes, classes for deaf students) Chinese classes are large (from 40 plus to about 60 students) and as noted earlier, instruction is delivered to the entire class at once. One problem such an environment creates is that few opportunities for public student responses are provided. In the second grade example class, approximately 20 to 25 of the 60 students were called upon for individual responses. Approximately 15 of those were called upon more than once, some as often as five times. It can also be noted that not one incorrect response was given by any student in this class. These observations suggest that, because there were visitors, the teacher chose only those students who were likely to respond correctly. Whether and how this teacher attempts to provide opportunities for more students to respond under normal circumstances is unknown.

Public responses are probably useful for evaluation (Is X student getting the material?), contingencies (Pay attention, the teacher may call on me); and participation (I'm part of this class). There are, of course, other ways these objectives can be met. Student written assignments, for example, are important for evaluation purposes and it appears teachers take the marking of papers seriously. Indeed, several questioned how American teachers could mark student papers well with so many classes and little if any non-teaching time provided during the day for preparation. In regard to the use of public responses as contingencies to pay attention to the material, teachers told us they know who to call on for this purpose. That is, they know their students well and watch for lack of "cognitive attention." However, several teachers indicated that such behavior is discussed with the students privately.

Finally, there were several methods employed that can be considered opportunities to provide public responses for a sense of participation. One, of course, is whole class unison oral reading. The other, observed in many classes, is calling upon pairs of students, groups of three or four students, or one or two rows of students to read aloud. These attempts, notwithstanding, it still must be noted that in most of the classes we observed, opportunities for individual independent responses were offered to far less than half of the students.[5]

These students who were provided opportunities to respond received feedback as to the correctness of their answers with little or no elaboration or explanation. For example, the second grade teacher's feedback to student responses consisted of single words (e.g., yes, right, good) and was typical of other classes. More enthusiastic or expressive teachers used phrases such as "very good" and "that was good." Although we witnessed very few instances of incorrect responses, these were also handled with brevity: "No, sit down," or, simply "sit down." When students were wrong, the teacher called upon another student. Only once was an explanation, "That's not an adjective," forthcoming.

Context Defines Climate

As noted earlier, a lesson in a Chinese school, whether primary or secondary, is a discrete event that is marked by a clear beginning and, 40 minutes later, comes to a clear ending. Its identifiability is also established by the appearance of a different teacher for each subject. A lesson's discreteness is further characterized by a scheduled free-time break after each class. These features contribute to the formality of Chinese classes, just as they contribute to a change in climate when a class is over. The completion of a lesson marks the initiation of an identifiable free-time period with both teachers' and students' behavior dramatically changed. Elementary students' behavior immediately becomes "playground" behavior (e.g. talking, running, touching, laughing, arguing) and teachers who are around during this time do not attempt to direct or control the situation.

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[5] An exception was a fifth grade English class of 40 plus students in Beijing. The teacher was enormously energetic, the pace was fast, and through the use of game-like activities (mostly in the form of races) every student had several opportunities to make independent responses.

The following incident demonstrates these points. My initial experience with the change in climate occurred at the close of a fifth grade reading class in an experimental school in Beijing. While the teacher was among the warmer and more enthusiastic, the class had most of the same characteristics as the second grade reading class described earlier and would properly be characterized as formal. At the conclusion of the lesson there was a milling about as some of our delegation exchanged comments with the teacher. One of our members offered to take a Polaroid picture of the class for their keeping and the teacher announced the photo opportunity to the students who were variously engaged in free-time activities. Some had already gone into the hall and were jumping rope or playing a kind of ping pong on the hall floor. Their classmates left the room to collect them for the photograph and soon a discussion ensued among teacher, students, and our photographer about how to arrange the 40-plus students in front of the camera. A suggestion that some stand on desks resulted in a noisy rearranging of furniture. Some students walked on the desks and there was much talking. The scene was not chaotic, but it certainly was not orderly. The issue of most interest is that there were no cautionary remarks from the teacher during this time, nor from the other school personnel who were in the room, and none betrayed any displeasure with the scene.

I witnessed this kind of change in climate every time our observations included the end of a class. The climate is a result of who controls the environment. The lesson is clearly controlled by the teacher; the free-time period is clearly controlled by the students, and teachers do not involve themselves, hence the notion that the context defines the climate.[6]

Some Comments and Opinions

Formal and business-like are the general labels that best characterize the climate of Chinese classrooms. The effective teacher literature (see for example, Brophy and Good, in press) suggests that many aspects of Chinese classrooms are associated with good achievement (e.g., an academic atmosphere, teacher directed instruction, the use of established rules and procedures) and these are, indeed, positive.

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[6] This should not be construed as teachers being oblivious to the students during these periods. Rather, it is that they expect a noisy play environment. Even for primary children there is no direct supervision. At a Shanghai elementary school we learned that one teacher, on a rotating basis, is designated as the safety teacher. This teacher's role is to emphasize safety and to be available if needed. Clearly, direct supervision is not part of this role, given that there were over 800 elementary students in the school. It can be noted that the staff was sincerely concerned for children's safety, but there was no indication that they considered it unsafe for children to be unsupervised during their breaks. Nor was there any indication that there were many accidents.

The pervasiveness of these same characteristics, however, was problematic. For example, we did not observe any extended class discussion in which the teacher encouraged differing student opinions and interpretations. Such discussions require reduction of the teacher's control and are most productive with smaller groups. Some of the teachers we talked with suggested that such discussions did occur. Others suggested that the incidence was low and that some changes would be required for the regular inclusion of processes such as extended discussions.

Some teachers indicated that they thought the time was right for changes that would, for example, allow for more discussions. As we toured the schools I began to conclude that Chinese instruction had not changed from what older Chinese Americans had described to me as their educational experiences five or six decades ago (e.g., formal, teacher controlled, standardized procedures). But these things are relative, and I was caught short by the conclusion at the Shanghai School were we observed the second grade reading lesson described at the beginning of this paper.

This is what happened: After the lesson, as noted earlier, several of the delegation members talked at length with the second grade teacher and per principal, who had observed the entire lesson with us. Toward the end of our discussion I asked the 70 year-old principal to compare the lesson we had just observed to her experiences when she was an elementary school student. Without hesitation, she said, "It was completely different." She explained that when she went to school, "The teacher talked and the students listened. Now it is more student centered and we try to have the students more active." She shook her head from side to side, indicating a negative attitude and said, "The students were passive--bottle fed--but not now."

What I observed in the second grade reading class was certainly not, by American standards, student centered. But it is apparently more so now than 60 years ago. My own values would encourage more movement in that direction, just as my own values would like to see some of the positive achievement-related features of Chinese classrooms incorporated in more American classrooms.

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LANGUAGE, SCRIPT, AND READING INSTRUCTION IN CHINA

Richard L. Venezky
University of Delaware

Background

Becoming literate in Chinese is commonly considered to be a formidable task for both native and non-native Chinese speakers. For Westerners, in particular, who are accustomed to alphabetic scripts, learning to read and write thousands of characters, some of which require over 20 separate strokes to reproduce by hand, is akin, at first glance, to the labors of Hercules. But whether or not these difficulties are significantly greater than those confronting the average child acquiring literacy in English is not easy to establish, especially when the total learning process for literacy is considered. What is clear, however, is that a better understanding than now exists of Chinese script and its acquisition could benefit both China and the United States.

For the Chinese, whose illiteracy rate ranges somewhere between 23% and 40% of the entire population,[1] improvements in literacy instruction are highly desirable and have comprised a continuing goal in the country's long-range plans. To "actively eliminate illiteracy among young people and adults" occupies a prominent place among the elementary and secondary educational goals in the current Five-Year Plan (1981-85). The urgency of this task is reflected further in the Government's intentions to modernize China's industry, primarily through technological improvements. This revolution is already placing pressure on the schools to raise their educational standards, particularly in science and math. For many students, and particularly those in the rural areas, lack of facility with Chinese characters remains as a barrier to technical understanding.

For the United States, the return on improved understanding of Chinese literacy acquisition is more indirect, and rests primarily in the advancement of knowledge for a psychology of reading. Chinese literacy offers a unique testing ground for theories of reading, given the non-alphabetic nature of Chinese script. Understanding how adults recognize individual characters and group them into words, and understanding how children acquire these abilities, would give converging evidence for the related processes with alphabetic scripts.

The purpose of the present paper is to provide a background for the study of literacy acquisition in China, with particular emphasis on Chinese language and script. Observations in Chinese schools and meetings with teachers, principals, psychologists, teacher trainers, and textbook publishers comprise one source of information for this paper. A second major source is the analysis done by the authors of the major textbooks used for teaching reading in the People's Republic of China. Beyond this I have sampled the current literature on Chinese language and script and on studies of reading in China. This is not intended, however, to be a comprehensive survey of the published literature in this area, but rather an introduction to the complexities of the topic.

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[1] Report on the General Census Office of the State Council and the Population Statistics Department, State Statistics Bureau. Beijing, 1982 (mimeograph).

[2] The Sixth Five-Year Plan of the People's Republic of China for Economic and Social Development (1981-1985). Beijing: Foreign Languages Press, 1984.

The Chinese Language

Han Chinese is a Sino-Tibetan language that differs dramatically from Indo-European languages in a variety of features, but particularly in word formation. First, Chinese stem-words are monosyllabic. Thus, while English has multi-syllabic stems such as *ceiling* and *window*, Chinese has only single syllable stems (e.g., *fan* "cooked rice," *dan* "egg"), although many words are built from sequences of single syllable stems. For example, the Chinese expression for *library* is composed of three separate syllables that independently mean *picture-book-building*.

Second, Chinese is an *isolating* language, that is, Chinese words do not vary in any way according to their sentence functions. Thus, while the English term *man* varies according to number and case (e.g., *man*, *man's*, *men*, *men's*), Chinese has a single form (*ren*) for all of these functions. In addition, Chinese has no equivalents to the definite and indefinite markers *the* and *a/an*, so that *man*, *a man*, and *the man* are rendered identically in Chinese.

In contrast to English, Chinese has phonemically distinct tones, the number of which varies from four in Mandarin to nine (or more) in Cantonese. In Mandarin, for example, *chu* with level tone (*chū*) can mean "go" or "come out;" with rising tone (*chú*) it can mean "hay" or "fodder;" while with changing tone (*chǔ*) it can mean "pestle," and falling tone (chù), "place."[3] As will be discussed below, many Chinese characters have a pronunciation indicator, but this gives, with varying degrees of reliability, only the segmental components and not the tones. The monosyllabic nature of stem words has resulted from a sequence of sound changes over the past 2,000 years that simplified consonant clusters and deleted certain vowels and final consonants, leaving the Mandarin dialect with only about 420 different syllables. In the sixth century, for example, *ga* "song," *gap* "frog," *gat* "cut," and *gak* "each" were phonemically distinct. Through loss of final consonants and a vowel shift, all of these forms have become *ge* in modern Mandarin. One result of these changes is that Chinese has a remarkably large number of homophones. Thus, according to Karlgren (1962), a small dictionary of 4,200 simple words gives 69 with the pronunciation *yi*, 59 with *shi* and 29 with *gu*. For *yi*, 38 of the distinct meanings have the falling tone. Over time Chinese has developed various mechanisms to overcome the ambiguities created by such a large stock of homophones. These include (1) semantic reduplication, (2) quasi-suffixes, and (3) noun classifiers. These are discussed in standard works on Chinese (e.g., Karlgren, 1949) and will not be elaborated here.

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[3] These do not, however, exhaust the meanings of *chu*. For example, *chu* can also mean "point/part," "department," "fear," "inadequate," "livestock," "touch," and "move" (among other meanings).

Chinese Script

Chinese script is composed of characters, traditionally written in vertical columns which run from right to left on a page, but now usually written left to right in horizontal rows running from the top of a page to the bottom as with English.[4] Characters relate not to phonemes but to meaningful elements, that is, morphemes. Shown in figure 1 is one of the first character sequences which children encounter in learning to read.

hǎo hǎo xué xí tiān tiān xiàng shàng

好好学习 天天向上

Figure 1
First Sentence from Book 1. The
Concentrated Character Recognition Method

This is a slogan that translates as "Study well and make progress every day." In Chinese writing, character sequences are not grouped into word units. For example, in the sentence in figure 1 the first two characters are (roughly) equivalent to the concept of "well;" the second two mean "study;" the third and fourth "every day" (which is generated by repeating the compounding character for "day"); and the last two "progress." Western punctuation is used, however, in the same way that it is employed in English script. While each character relates directly to meaning, a single word may be composed of more than one character.

Chinese characters have evolved over at least 3,500 years, and probably longer (Gelb, 1963). Jackson (1981) speculates that Chinese script developed similarly to Sumerian cuneiform, from pictographs to ideographs to the addition of phonetic symbols. Because of the large number of homophones, however, even in ancient Chinese, ideographs were added to phonographs to select particular means. For example, the phonograph for the monosyllable _fang_ has several meanings, including "street" and "inquire." By adding an ideograph that represents the concept "earth" to _fang_, the sense of "street" is selected. Similarly, when an ideograph representing "words" is compounded with _fang_, the sense of "inquire" is indicated. These different characters are shown in figure 2.

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[4] The original top to bottom direction of writing for Chinese is still used occasionally for monuments and classical texts in China and for general writing in places like Hong Kong and Taiwan.

方	坊	訪
fang	earth plus fang	words plus fang

Figure 2
Characters built on fang
(Jackson, 1981, p. 31)

Compound characters such as the last two in figure 2 comprise about 90% of all modern Chinese characters. Each compound character consists of a significant part and a phonetic (syllabic) part. The syllabic part, in turn, may be either simple or compound. For example, the simple character for enclosure (囗) compounds with 古 to form 固 gù "solid, firm." This compound character is then incorporated as the phonetic part of 痼 gù "chronic." In some cases sound changes have eliminated the identification of the compounded syllable with the isolated syllable. The character 工 (gōng "work"), for example, is the syllabic part of 扛 gāng "carry" and 江 jiāng "river." A more extreme case is found in 兑 dùi "exchange" and 說 shūo "speak, talk." Mr. Ni Haishu of the Commission on Language Reform in Beijing estimates that originally about 80% of the compound characters had reliable syllabic indicators, but due to sound changes over the last two millenia this figure is considerably lower. Zhou (1958; cited in Tzeng, 1983) estimates the current figure to be less than 39%, although he does not indicate whether this is based on types or tokens.

Besides the [significant + syllabic] compound characters, there are other character types in modern Chinese writing, although they form in total less than 10% of all characters found in a dictionary. One class is the pictograph, examples of which are shown in figure 3. These characters still retain some reasonable degree of resemblance to what is assumed to be the pictures they were derived from. Another class, shown in figure 4a, is composed of combined sense characters, or hybrids (hui-i). In many cases the combined meanings can be logically derived from the meanings of the separate components, although cultural knowledge and some humor are often required. For example, the characters for "ten" (十) and "mouth" (口) combine to form "ancient" (古), based on an understanding of the "mouths of ten generations." Less complicated, but equally alien to some modern thought, is "woman" (女) plus "broom" (帚) combining to yield "wife" (婦).

A subclass of hybrid characters is the reduplicative class, in which characters are created by repeating a simpler character one or more times. Examples of these are shown in figure 4b. For some reduplicative characters the multiple sense is easily derived from the singular sense (e.g., (木) mù "tree;" (林) lín "forest"), while for others it is not (e.g., (女) nǚ "female," (姦) jiān "adultery, rape").

Ancient form	*Modern form*	*Pronounced*	*English*
	日	*rì*	sun or day*
	月	*yuè*	moon or month
	酒	*jiǔ*	wine
	山	*shān*	mountain
	田	*tián*	field
	口	*kǒu*	mouth

Figure 3
Pictographs
(Chang & Chang, 1978, p. 15)

拜	仙	盲人	話	信
bài	*xiān*	*máng rén*	*huà*	*xìn*
(salute)	(fairy)	(blind man)	(speech)	(trust)

Figure 4a
Hybrid Characters

Character written once means			*Character repeated means*		
人	*rén*	man	众	*zhòng*	crowd
火	*huǒ*	fire	焱	*yàn*	sparks
口	*kǒu*	mouth	品	*pǐn*	conduct
石	*shí*	stone	磊	*lěi*	massive
耳	*ěr*	ear	聶	*niè*	whisper
車	*chē*	carriage, car	轟	*hōng*	rumble

Figure 4b
Reduplicative Characters
(Chang & Chang, 1978, p.21)

Closely related to pictographs are ideographs, examples of which are shown in figure 5. These are representations of basic abstract concepts, such as number, shape, position and size. Like pictographs, these too developed from pictorial representations, although their origins are not always identifiable.[5]

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[5] Modern Chinese also has phonetic loan word characters. These five character classes, plus a sixth for derivatives, were formulated as early as 121 A.D. in the Shuowen Jiezi Dictionary (see Wang 1981).

Character	*Pronounced*	*English*
上	*shàng*	up
下	*xià*	down
中	*zhōng*	middle
大	*dà*	large
小	*xiǎo*	small
一	*yī*	one
二	*èr*	two

Figure 5
Ideographs
(Chang & Chang, 1978, p. 15)

Although about 50,000 characters exist, apart from recent technical terms and classical forms no longer in common use, only about 3,000-4,000 are required for newspaper reading and other forms of everyday literacy.[6] Furthermore, many characters are built from a small group (about 220) of primitive symbols, called radicals. Some radicals, like (木) mù "tree, wood", can stand alone while others like the water radical (氵) cannot. Those that cannot stand alone have no pronunciations. Radicals that can appear alone might be pictographs, ideographs, or parts of combined sense character, but both free and bound radicals appear as components of [significant + syllabic] characters.[7]

Writing

Chinese characters are built from primitive components, called strokes. Figure 6 shows a table of the 20 most basic strokes, taken from the first reader for the "Concentrated Character Recognition Method." Not only must children (and adults) learn the strokes which make up each character, but they must also learn the correct sequence from writing the strokes. In some dictionaries words are grouped first by radical, and then within radical by number of strokes. Other classification schemes use the first and last strokes for drawing of a character as part of the classification scheme. More recently, some dictionaries have been organized first by pronunciation, given in the official Pinyin romanization (see below).

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[6] A recent article in China Daily (May 14, 1984, p.3) states that according to State Council regulations, a literate should be able to read and write 1,500 characters. This, I assume, is for minimal literacy. As for the total number of characters in existence, estimates vary considerably. The Deputy Director of the Central Institute for Educational Research claims that while a current dictionary contains about 47,000 characters, only about 6,500 are in comon usage, and of these, about 3,800 account for 99.9% of all character tokens in texts.

[7] Representation of modern technology has led to other types of bound forms. For example, 上 shàng "up" combines with 下 xia "down" to give a new form 卡 that has no meaning alone. But in combination with 女 nǔ "woman" a new [significant + syllabic] character, ⿰女卡 shàng-xía, which means "elevator girl" (Chang and Chang, 1978, p. 20 fn).

笔划	名称	例字	笔划	名称	例字
一	横	三	㇆	横折钩	门
丨	竖	十	㇈	横折弯钩	九
丿	撇	人	㇄	竖折	山
㇏	捺	大	㇉	竖折弯钩	马
丶	点	小	㇟	竖弯钩	毛
㇁	弯钩	子	㇇	横折撇	水
㇖	横钩	要	㇜	撇折	红
亅	竖钩	水	㇛	撇点	女
㇂	斜弯钩	我	㇀	提	地
㇕	横折	日	㇙	竖提	民

Figure 6
Table of 20 Basic Character Strokes

Some older characters might have 60 strokes or more; however, these are quite rare now due to various character reforms. Of the 227 radicals listed in a recent Chinese-English Dictionary (Beijing Foreign Languages Institute, 1979), more than half require four or fewer strokes and 95% require fewer than 10 strokes. Of the 6,000 single characters listed, few have more than 16 strokes.

To compound the difficulties for advanced literacy, modern literary writing occasionally utilizes classical forms of characters that have in recent years been simplified. In the period from 1949 until the end of the 1960's, 1,055 redundant characters were eliminated and over 2,000 simplified, generally by elimination of strokes. Modern dictionaries usually list the original complex forms and their simplified versions.[8] In addition, Chinese has, like most other writing systems, both a standard script form and a running hand, the latter being for rapid, continuous writing with a brush or pen. Examples of these are shown in figure 7.

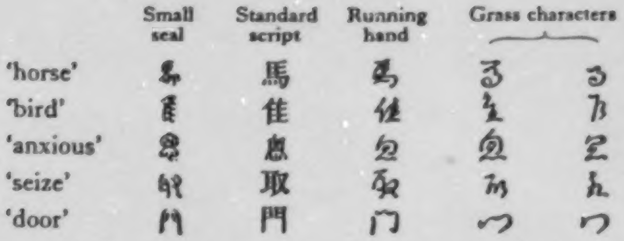
Small seal
Standard script
Running hand
Grass characters
'horse'
'bird'
'anxious'
'seize'
'door'

Figure 7
Chinese Writing Styles
(Karlgren, 1962, p. 50)

Chinese Romanization

Phonetic representations in roman letters of Chinese speech have been in use since the middle of the 19th century, beginning with the Wade-Giles Romanization that was first introduced by Sir Thomas Francis Wade in 1859. Similar systems were developed by Chinese scholars (e.g., The Gwoyeu Romantzyh system used today in Taiwan) and by Chinese instructors at Yale University. The system used in China's schools, and elsewhere throughout the country, is called Pinyin Romanization, and was originally developed as part of a Chinese literacy campaign. Pinyin indicates segmental sounds with roman letters (a-z), plus a diaresis (ü); tones are marked over vowels with the four marks - / v \ for level, rising, changing and falling tones. An example of Pinyin used to indicate pronunciations in a Chinese reader is shown in figure 8. (Only new characters being introduced for the first time have Pinyin notations).

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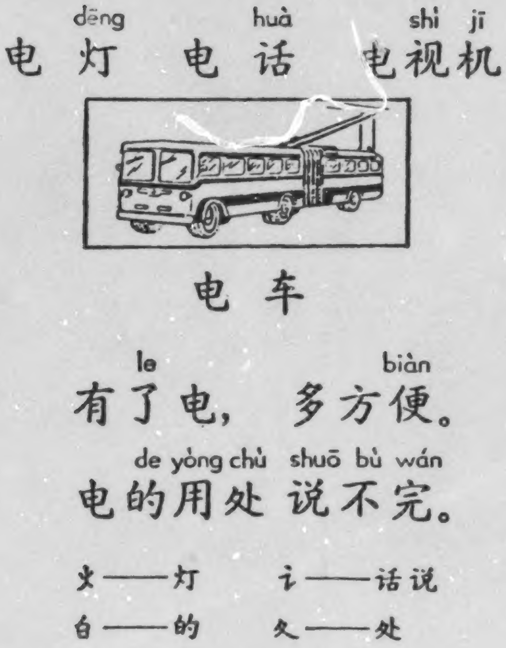
[8] On Taiwan, however, the character reforms have not been officially accepted, thus leading to incongruities between mainland and non-mainland Chinese script.



dēng huà shi jī

电灯 电话 电视机

电车

le biàn

有了电， 多方便。

de yòng chù shuō bù wán

电的用处 说不完。

火——灯 讠——话说

白——的 夂——处

Figure 8
Pinyin in a Reading Text
(Diffuse Method, Book 1, p. 56)

Pinyin became the official romanization in the late 1950's, but not until early 1979 were standard Pinyin romanizations for proper names adopted. This latter standardization brought the Pinyin system to international attention with such respellings as Beijing (for Peking) and Deng Xiaoping (for Teng Hsiao-ping). Two problems remain with Pinyin usage, nevertheless. One is that for about 15% of the Chinese vocabulary there is no consensus on whether syllables should be joined or not. In addition, some publications attempt to join whole phrases into single Pinyin words, while others (e.g., the card catalogue in the Beijing Library) write each Pinyin syllable as a word. The second problem is found in the inconsistent use of the apostrophe to separate syllables within words where ambiguity might exist. Thus, officially the capital of Shaanxi Province should be spelled Xi'an and the place name Yanan should be Yan'an.

Actual usage varies considerably, even within a fixed context (Mathias and Kennedy, 1980).

Teaching to Read

Given the complexities of Chinese script, the design of literacy instruction is confronted with unique problems, and until recently little empirical research was done to guide curriculum design or instruction. Consequently, intuition and State policy have been the major aids to curriculum. (Collections of character errors from both reading and writing were mentioned by representatives of several institutions, but reports on such work have not been made available.) The plan here is to describe how initial reading is taught, based primarily on analyses of textbooks and observations in primary level classrooms. The reader should keep in mind, however, that classroom observations with one exception (Inner Mongolia) were made in what the Chinese now call key schools, that is, elite or experimental schools like the Beijing Jingshan School, that has its own research staff and develops some of its own textbooks. Furthermore, only the initial teaching of reading is of concern here; appreciation of literature, comprehension of math story problems, and the like are not discussed.

General Methods

For over 1,000 years the teaching of reading in China required the memorization of about 2,500 characters before meaningful texts were introduced. Using materials developed in the period from 540 to 1200 A.D., teachers would introduce new characters in three- or four-character sequences, with minimal concern for meaning beyond the recognition of single characters. After this regimen, students would read for memorization ancient poems and other classics. When the vernacular replaced classical Chinese (about 1922), a new approach to reading, mixing character learning with text reading, was adopted and the total number of characters learned per grade was reduced.[9] After 1958, experiments with a new method of instruction, called The Concentrated Character Method, were begun. This method is now used in a number of schools, particularly in the northern provinces, and is characterized by a significantly higher character load than the standard ("diffuse") method. In addition, a variety of compromises between the concentrated and diffuse methods have been developed.

The basic difference between the concentrated and diffuse methods is that new characters are generally introduced in the context of reading selections for the diffuse method, but in isolated groups prior to the reading selections for the concentrated method. This difference, however, does not become apparent until near the end of the first books in the respective reading series, and continues only through the beginning of book four (end of second grade). After this point the textbooks differ little in basic methodology, except that the exercises following the reading selections in the Concentrated Method texts focus more on character recognition than do those in the Diffuse Method texts.

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[9] Li Botang (1984) sketches the history of reading instruction in China and
(Footnote Continued)

The Standard (or Diffuse) Method

1. Pinyin

The standard approach to teaching reading in China begins with an introduction in the Pinyin system. Four to six weeks are spent in this phase of reading instruction and the methods for doing it do not vary across textbooks. First, the six vowel letters a, e, i, o, u, ü are introduced, along with the four tone markers. Picture-letter associations are used to tie the new symbols to meaningful structures. Next, letters for labial sounds (b p f m) are introduced, and then combined with different vowels. These are followed by several dentals (d t n) and a lateral (l) and then by velars and a guttural (g k h). This front to back sequence is then abandoned to introduce affricates, glides, and the remaining sibilants (j g x z c s zh ch sh r w y).

Following the consonants are diagraph vowels (ai, ei, ao, er etc.) and then a variety of final nasal syllables: an, en,...ang...ong. Single-syllable and occasionally two-syllable words are shown, although two syllable words are still written with separate syllables (e.g., shan yang rather than shanyang for "goat"). The Pinyin text section in the standard reading series ends with a picture gallery of 16 animals with their Pinyin names, and then a brief review of letters and syllables. Although I did not observe any classes learning Pinyin, teachers in several schools stated that students rarely had difficulties in learning the system. Horizontal rulings for printing Pinyin are shown in the texts; however, I saw no evidence of Pinyin writing in the classrooms. Pinyin is heavily used in the textbooks for the initial introduction of characters, but by the end of first grade only about 10% of the characters in a reading selection will have Pinyin pronunciations written above them.

2. Initial introduction of characters

In the diffuse method the first ten characters introduced are those for the numbers 1-10. Instructions are given in the student text for writing these, including the stroke order for all except the most simple. Succeeding lessons introduce characters in groups of from three to eight characters, generally selected by semantic criteria (e.g., man, mouth, hand; above, middle. below).

Words containing the lesson characters are occasionally given in Pinyin also in the early lessons; in the later lessons two-character words are often given in characters with the Pinyin pronunciation above the new word.

Occasional review lessons contain a variety of exercises, including discrimination of graphically similar characters e.g.,用——月, identification of related two-character sequences (e.g.,里面——理发), Pinyin to character translation, and building of compound characters (e.g., 云+力=动). The final section of the first text book contains sentences and short paragraphs, along with further exercises on character discrimination and segmentation. In all, 282

(Footnote Continued)
tabulates character counts for the major reading texts issues in the twentieth century.

characters are introduced in Book One. Book Two , which completes reading instruction for grade one, introduces 414 new characters, giving almost 700 for the year. This latter book is composed of 34 reading selections, each followed by a set of exercises, plus seven review lessons. The exercises generally have three parts: (a) comprehension, focusing usually on moral or political issues when possible; (b) character recognition, and (c) reciting or memorizing portions of the text.

The next two reading texts, which are intended for second grade, introduce 964 new characters, giving 1,660 for the first two years. (In contrast, children in Inner Mongolia who are introduced to reading first in their native Mongolian, are expected to know only 1,655 Chinese characters by the end of grade five.) By third grade students are expected to look up new characters in a dictionary, even though character instruction continues at least through fifth grade. (In a fifth grade reading lesson which I observed, students were asked to write Pinyin pronunciations for characters and to recall from memory graphically similar characters for new characters in a lesson. The teacher used colored chalk to highlight the differences between similar characters.)

Concentrated Character Recognition Method

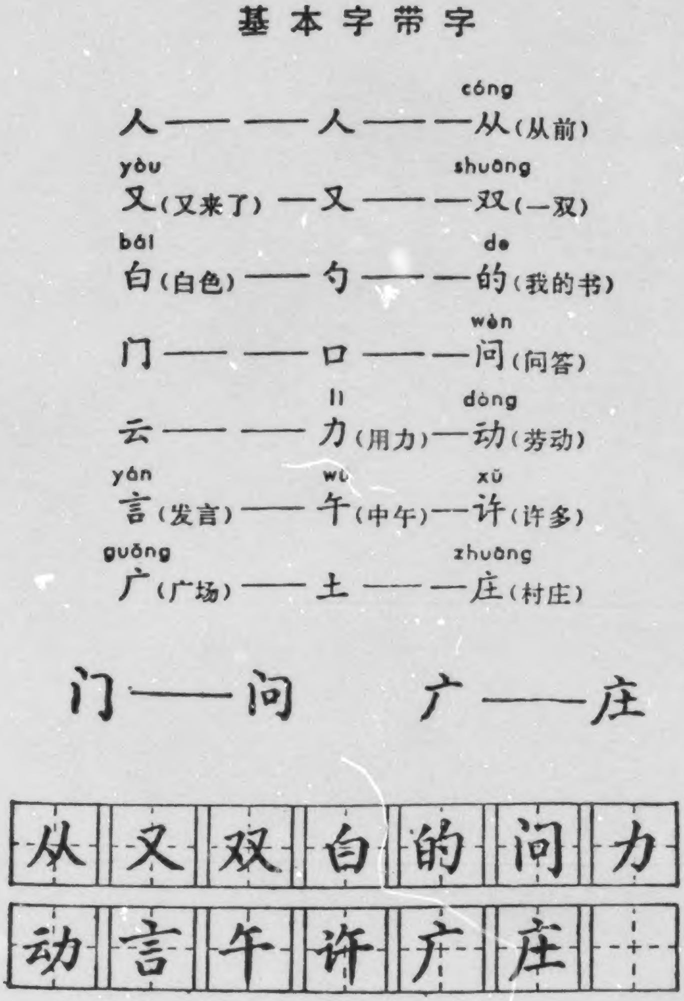
The concentrated character recognition method differs from the method just described primarily in its overt instruction on building composite (hybrid) and compound characters out of familiar components, and in its increased emphasis on writing. It begins as the method just described does with Pinyin instruction, followed by the numbers, and then groups of characters selected by semantic criteria (e.g.. man/son/woman; head/hand/foot). After about 75 characters are taught, the first sentence is introduced ("I love the Motherland."). After several more words and sentences are studied, 20 basic strokes for writing characters are presented along with their names.

From here instruction alternates across three basic lesson types:

1. Building composite (hybrid) and compound characters from simple characters (see Figure 9);
2. Learning new words by alternating tones for a syllable (see Figure 10); and
3. Reading selections.

There are also occasional lessons on stroke order and on contrasting graphically similar characters, but the main techniques for introducing new characters and words are built on the analysis/synthesis approach of lesson type one above or the syllabic pivot of lesson type two. Furthermore, large numbers of characters are often introduced before any are applied in reading selections. At the beginning of Book Four, for example, 320 new characters are introduced on pages 1-19. (I am not sure, however, how a teacher might utilize this section of the text.)

Exactly how well this method works with students of different aptitude levels and with teachers of different educational backgrounds cannot be determined from the data made available to us. A report from the Central Institute of Educational Research on a school using the method in Changzhou



基本字带字

cóng
人—— ——人——从(从前)
yòu shuāng
又(又来了)—又——双(一双)
bái de
白(白色)——勺——的(我的书)
wèn
门—— ——口——问(问答)
lì dòng
云—— ——力(用力)—动(劳动)
yán wǔ xǔ
言(发言)——午(中午)—许(许多)
guǎng zhuāng
广(广场)——土——庄(村庄)

门——问 广——庄

从 又 双 白 的 问 力
动 言 午 许 广 庄

Figure 9
Character Composition Exercise
(Concentrated Character Recognition Method, Book 1, p. 57)

声调 音节	－	／	∨	＼
zhang	张（姓张）		长（长大）	
		cháng 长（长短）		
cheng		成（完成） 城（城市）		
li			里（里面） 理（理发）	
kuai				快（快慢） 块（一块）
zhi	只（一只） 织（织布）		只（只要）	
xiang				象（大象） 橡（橡皮）

弓——张　忄——快

长 张 成 城 里 理

快 块 只 织 象 橡

Figure 10
Characters Grouped by Syllable Structure
(Concentrated Character Recognition Method,
Book 1, p. 44)

claims that a class composed of the 44 brightest first graders in the school learned 1,345 characters and about 3,000 words in the first year.[10] Since no information is given on instructional time, parent involvement, criterion levels for mastery of characters and many other variables that might affect the outcome of such a demonstration, little can be concluded about the relative effectiveness of this method.

Preschool Reading

In a preschool/kindergarten which I observed in Beijing, children between the ages of 4½ and 5½ years were taught to recognize characters. Several prereading exercises were used in support of the character instruction. In one the teacher read a short sentence and the children attempted to count the number of syllables they heard. In another activity children attempted to identify the separate parts of compound characters. The teacher for this class also described the use of tone discrimination exercises, although none of these were observed. In all, about 350 characters were taught to the 4½-5½ year olds and about 400 to the 5½-6½ year olds. Writing, however, was not taught.

Several teachers claimed that children came to the first grade already recognizing a number of characters. One even ventured a guess of 80 as the number of characters which the average child knew when first grade started. While the urban schools I visited were at the upper end of the ability spectrum, I frequently heard claims that even in the rural areas parents typically read to their children and attempted to prepare them for reading instruction.

Issues in Reading Instruction

Since we have almost no evaluative data on Chinese teaching methods, we can at best speculate on what the major issues might be in the learning of Chinese characters. Therefore, based on what has been learned from perceptual and reading studies elsewhere, plus analyses and observations of Chinese reading materials and instruction as given above, I have formulated a number of research issues that might have significance both for the improvement of literacy instruction in China and for the psychological study of reading in general.

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[10] Central Institute of Educational Science Research, 1983-84. The number of characters which are learned in the lower elementary grades is as difficult to capture as the Chimera and the summer camp snipe. The Deputy Director of the Central Institute for Educational Science Research claimed that 2,200 were learned in grades one and two. A member of the People's Educational Publishing House in Beijing claimed that since the late 1970's the total for grades one and two was 1,700. A separate report from the CIER claims that with the concentrated method, 1,300 characters are learned in grade one and another 1,200 in grade two. (See also footnote 9.)

1. Perceptual Issues

Although Gray (1956) claims that the eye movement patterns in reading Chinese are no different from those for reading English, this result is based exclusively upon the existence of brief staccades and relatively long fixations. How processing time is distributed during fixations, how much is resolved and retained from peripheral vision, where the center of a fixation is relative to characters and spaces, and what types of regressive movements occur are all apparently unexplored for Chinese reading. The general complexity of Chinese characters, for example, may limit the use of peripheral vision and therefore place an upper bound on visual processing speed. That is, if no information is gained from peripheral vision, recognition during a single fixation will be limited to the number of characters that are spanned by the fovea. In addition, since little information will be available on the next characters to be encountered, a conservative saccadic jump strategy will probably be induced. Techniques developed for studying these issues with alphabetic scripts are directly applicable to Chinese script.

A second issue concerns the distribution of time during fixations. If for example, character and word recognition times are short relative to resolution of polysemy and integration into higher-level semantic structures, then marking of word boundaries with extended spaces, as has been suggested, would probably have little effect on silent reading speed. On the other hand, if the time required to resolve characters and define word boundaries were relatively long, grouping characters into words might improve reading speed.

This could be tested directly by generating parallel texts with different spacing patterns. But given the overlearning of reading with character-based spacing by literate Chinese, measurements of reading habits for non-standard spacings would need to be taken over an extended period of time to determine asymptotic characteristics. That is, until subjects have begun to demonstrate their limits of improvement in reading with non-standard spacing, no valid comparisons can be made to reading with standard spacings.

Finally, the nature of the character recognition process itself needs to be explored, especially to provide guidelines for character simplifications. Although perhaps as many as 90% of all Chinese characters contain a so-called phonetic element, some scholars claim that fewer than 39% of these are reliable indicators of pronunciation (see above). If the utility rate of the phonetic indicators is so low, do experienced readers use them in recognition? This is a complicated issue to investigate, as almost 100 years of phonological mediation studies has proven for alphabetic scripts. For example, recognition of Chinese characters might occur by strictly visual cues; yet, like the processing of English, recognized characters and words might be recoded immediately to a phonological form for retention in immediate memory. If the phonetic component is found to play a major role in recognition, regularization of this part of compound characters might be desired.[11]

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[11] A recent study on Japanese reading (Hatano, Kuhara, and Akiyama, 1981) suggests that Kanji characters, which are Chinese characters, are processed directly to meaning.

Another issue with character recognition is the exploration of features that facilitate or retard recognition. This is an issue that is still poorly understood for English, although many tachistoscope bulbs have been sacrificed in its pursuit. How well do frequency of occurrence or familiarity predict recognition speeds for characters? Does number of strokes or stroke order play a role? These and related issues could be explored both with recognition/naming paradigms and with lexical and character decision tasks. The latter offer the advantage of constructed stimuli in which character components could be manipuled in pseudo-characters and pseudo-words.

2. Instructional Issues

a. Pinyin

The teaching of Pinyin seems highly inefficient, based on U.S.A. experiences. Teaching all the vowels followed by all the consonants probably works well in key schools and in other areas where children are prepared at home for learning to read and are highly motivated to do well. For all others, however, the system is a potential barrier to learning to read. First, the initial tasks are mostly meaningless to young children, since the relationship of Pinyin symbols to spoken syllables and words does not become obvious until after the vowel lessons. By starting with a consonant and vowel that make a picturable word, such as ma "horse," higher motivation might be achieved as well as earlier learning of the goal of the task.

Second, the introduction of four tone markers plus three vowels in the first lesson appears to be an unnecessarily heavy load for both teachers and students. Experiences elsewhere in the teaching of reading (e.g., Feitelson, 1980) indicate that with lower S.E.S. students, the load of new patterns introduced at any one time needs to be minimized to ensure learning and retention. This suggests that a single tone should be used initially while new vowels and consonants are introduced. Once a small set of words is learned well, a separate lesson should be done on a second tone, which should be practiced alone first, and then contrasted with the first one that had been learned. This same procedure could then be followed with the third and four tones.

These suggestions should be seen as questions for instructional testing rather than dogma for new teaching directives. While based on some empirical data, they are nevertheless speculations in a realm where knowledge and experience are far from adequate. Improvement of Pinyin instruction is an important goal because Pinyin appears to play a critical role in the initial learning of characters, especially in the concentrated character recognition approach.

One step that should be taken is to assess Pinyin abilities at different stages of learning, particularly in the first four primary grades. For such data to be meaningful, however, they must be obtained from a representative sample of the nation's schools, and not just from key schools, or schools that volunteer to be tested. Pinyin not only provides independent verification of character identification to the beginning learner, it also provides a linkage between script and a form of language which Mandarin speakers already possess. For non-Mandarin speakers, Pinyin, when coupled with pronunciation practice, provides a reminder of the common language (putonghua). There are limits, however, to the results to be expected from teaching reading in an unfamiliar language.

It is interesting to note that while the popular view in U.S. academic circles is that Chinese symbols allow direct symbol-to-meaning translation, the emphasis in teaching Chinese reading to native speakers is on symbol-to-sound translation, and that meaning is accessed initially through phonological mediation. Part of the success of the concentrated character recognition method may be that in building character recognition around a common segmental syllable (e.g., hūa, "flower;" húa "China," hùa "change), well-developed acoustical memory mechanisms are invoked. These allow, for example, the generation of the other spoken forms given any one of the group. While the link from spoken to written symbol must still be formed, the retrieval of one given the other is enhanced by the syllabic associations. The work of Conrad (1964) suggests, nevertheless, that there may be a lower age bound, perhaps around five or six, where these acoustical associations might not be made spontaneously. (Replicating Conrad's studies on native Chinese speakers might provide information on acoustical memory universals.)

Character Writing

Character writing appears to occupy an important role in learning to recognize characters, yet we have little research to guide exploration of this relationship. Training in basic strokes and in stroke order might have its primary effect on systematizing visual recognition processes. Or it may, through sensory-motor encoding, provide an analysis-by-synthesis alternative to purely visual recognition. In this regard we should not ignore the oft observed Chinese habit of tracing a character with a finger on the palm of the hand as a technique for describing a word to a listener. Whether the observer comes to know the character through association, stroke-by-stroke, with his own internal sensory-motor codes, or whether the speaker/writer clarifies his message through direct sensory-motor involvement, we're not sure. Nevertheless, this practice is revealing of the importance of the act of character printing.

At first glance, Chinese characters appear to require considerably more writing effort than English script for the equivalent message. However, rough counts made on sentences in Chinese readers suggest that this is not true. The two writing systems may not differ significantly in writing complexity. To test this empirically, an operational definition of "equivalent message" needs to be developed, and effort measures devised.

Character Sequencing

Within the various techniques for grouping characters: semantic class, syllable, opposites, etc., there is still considerable choice of selection. At present a rough frequency guideline appears to be followed, yet there are reasons to question this criterion. For teaching patterns of composition of hybrid and compound characters, exemplars of regular and irregular characters are highly important, yet these may not be among the more frequent Chinese characters. A better procedure would be to analyze both reading and writing errors of young students, and build part of instruction around the most common mistakes. But instruction should also be built upon the higher-level concepts and patterns of the script system, and upon an appreciation of aptitude treatment interactions. Slower learners, for example, probably do not profit from simultaneous introduction of graphically similar characters. They generally need to learn well one character before trying to learn a highly similar tone. Faster learners, on the other hand, might profit from contrastive sequencing. If this is shown to be true for Chinese students, then different materials might be required for different types of learners.

These are some, but not all of the issues that might be of interest to both Chinese and U.S.A. psychologists and educators. At present the teaching of reading in China is built primarily upon common sense and experience, two indispensable guides for any instructional decisions. With the current Chinese experiments with teaching methods as a base, an unusual opportunity exists to study the effects of instruction on memory and learning and at the same time to contribute to the goal of improving Chinese reading instruction.

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IMPRESSIONS OF COMPREHENSION INSTRUCTION IN CHINA

Richard C. Anderson
Center for the Study of Reading
University of Illinois

I will never forget the first Chinese class I saw. It was a fifth grade of about 55 students in Beijing. The class was ringed with foreigners, snapping photographs, talking with their interpreters, yet not a child's attention strayed from the lesson.

The intense concentration of Chinese students eventually became a commonplace to us. We saw it in every class we visited, from kindergarten through high school, from an elementary school for the deaf to an adult evening college. Of course, students are on their best behavior when there are visitors in class, but it does not seem likely that even four- and five-year-olds would have maintained attention throughout a 35 minute lesson if this were all there was to the story.

Good attention is one of several positive features of Chinese education. One of the not-so-positive features, however, is also discussed in this chapter: Chinese schools do not appear to do much to promote reading comprehension, especially some of the higher forms that involve independent thinking.

According to the deputy principal of a high school in Xian, "China has 2,000 years of experience in education. Traditional methods stressed reading aloud, recitation, and memorization." These features are still much in evidence in Chinese classrooms.

In every class we visited, from preschool and kindergarten through high school, the teacher was conducting a whole-class lesson. Typically, the class works its way through the day's text a paragraph at a time. The whole class may read the paragraph aloud, or an individual student may be called upon to do so. Then the teacher asks questions, evaluates students' answers, and often extends answers in short lectures.

A rigid turntaking etiquette is followed in China. Chinese students speak when, and only when, the teacher designates. When called upon, students rise from their seats. A turn ends when the teacher says, "Please be seated."

With a few exceptions, we did not observe free-flowing give-and-take in Chinese classrooms. Students more properly would be said to provide recitation than engage in discussion. A fifth grade reading teacher at the famous Jingshan School in Beijing did encourage her students to ask questions if there was anything they didn't understand. Later she told us this was a special feature of her instruction. In fact, we never saw the practice elsewhere.

One aspect of comprehension everywhere stressed by teachers is appreciation of the mood created in poems and stories. At the delegation's very first briefing, a senior staff member at the Central Institute of Educational Science Research illustrated the feeling evoked by images of sunset and mist over still waters. The symbolism of Chinese classics, which are the staples of the curriculum, often is not apparent to today's youth. We witnessed explanations of symbolism in every high school Chinese lesson we saw and most elementary school lessons as well.

Below is a classic story, included in the experimental reading program developed at the Jingshan School that illustrates the heavy load of literary figures of speech in school reading material. Notice also, though, that the message is profound. The story is included in the fifth grade reader.

Lesson 20. Fleeting Time by Zhu Ziqing (trans. by Gladys Yang, 1922)

> Swallows fly away, yet return; willows wither, yet burgeon again; peace-blossoms fade, yet bloom afresh. But tell me, you who are wise, why do our days depart never to return? Does someone steal them--if so, who? And where are they being hidden? Or have they fled of their own accord--and if so, where are they now?
>
> I do not know how many days have been granted me, but my hand is growing emptier all the time. In silence I compute that more than 8,000 days have already slipped through my fingers. Like a drop of water on the point of a needle which drips into the ocean, my days have dripped noiselessly into the stream of time, leaving not a trace behind.
>
> The past has gone whither it listed, and the future is coming as it wills; but why is this junction of past and future so fleeting? When I get up in the morning, two or three rays of sunlight slant into my chamber. The sun has feet which pad lightly, stealthily on; and I follow, revolving bemusedly on its wake. And so--when I wash my hands, my time slips out of the basin; when I eat, it slips away through my bowl; and when I am silent, it slips past my abstracted eyes. Conscious that it is fleeting away, I stretch out my hands to catch it, but it streams through my outstretched fingers; and at night when I lie in bed, it glides nimbly over my body or flies from beside my feet. When I open my eyes to see the sun again, another day has slipped past. I sigh and cover my face. But the shadow of the new-come day begins to flutter off in my sigh.
>
> ....My past has been scattered like smoke by the light breeze, or dispersed like mist by the morning sun. And what traces are left me? What vestige?.......
>
> Answer me, you who are wise: Why do our days depart never to return?

Included in the reader are exercises the student is expected to complete in preparation for the classroom lesson based on the story and exercises to be completed as homework, as follows:

Preparation

1. Look up the following words in the dictionary. Give their meanings and romanize the underlined characters.

   Kongxu cencen shanshan zhewan
   xie nuo rong ningran

2. Meaning of new expressions:

   (1) congcong--hurriedly
   (2) tou cen cen--sweat streaming down the head
   (3) shanshan--to weep

3. Read aloud the text.

4. "Time" cannot be seen or touched. Read carefully the third paragraph and explain how the author makes you feel that "time" flies.

Homework

1. Read and write the following expressions:

   congcong yanzi yangliu taohua
   qingyan nuoyi xuanzhuan ningran
   juecha zhewan baowu hengji
   tanxi linglinglili

2. Find the parallel sentences in this article and write them down.

3. Read the following paragraphs and answer the questions: "Eight thousand days have already slipped through my fingers. Like a drop of water on the point of a needle which drips into the ocean, my days have dripped noiselessly into the stream of time, leaving not a trace behind."

   How many years is "eight thousand days" and what does it refer to?

   What is like "a drop of water...."?

   "My days have dripped noiselessly into the steam of time"--what does this mean?

   "Leaving not a trace behind"--What does this mean? What is the author referring to?

4. Recite the text.

The stories in Chinese readers unabashedly extol hard work, moral virtue, and love of country, as is illustrated in the two brief stories below (and accompanying exercises) from the first lesson in the fourth grade Jingshan reader:

Lesson 1. *Story of Hardworking Students* (trans. by Richard Chang, 1984)

Light of Snow and A Bag of Fireflies

During the Jin Dynasty, there was a person named Sun Kang who was very eager to learn. He was poor and had no money to buy lamp-oil, so he could not study in the night. He tried every means to solve his problem. During winter nights, regardless of the cold weather, he would go outside of his house and read by the light of snow.

There was another person at that period. His name was Ju Ying. Like Sun Kang he had no money to buy lamp-oil. During summer nights he would catch many fireflies and put them in a gauze bag. With the light from the bag he could read night and day.

The Woodcutter and the Buffalo Boy

When Zhu Maichen of the Han Dynasty was young, he was very poor. Everyday he had to go to the mountain to chop wood to make a living. Therefore he had no time to study. But he was eager to learn, so he always read while carrying wood down from the mountain.

During Sui Dynasty there was a person named Li Mi. Li tended buffalos for people in his childhood. Everyday when going to work he would hang some books on the buffalo horn so that he could read while the buffalo was feeding on grass.

Exercise

1. Read and write the following expressions and explain the meaning of those which are underlined:

   night
   eager to learn
   to make a living
   light of snow
   night & day
   the woodcutter and the buffalo boy

2. Tell, in your own words, the four stories and explain what you have learned from those stories.

Turning now to the specifics of classroom instruction, typical of Chinese reading lessons was one we observed in Xian elementary school. This was a forth grade class of about 50 children. When the teacher entered the room, the class rose and said in unison, "Good morning, teacher!" Then they recited a memorized chant.

The teacher introduced the day's story, *The Little Pine Tree*, with a brief lecture which explained that the writing style was anthropomorphic. The story was about a small pine tree that wanted to grow larger so that it could see further.

The children had almost certainly read the story in preparation for the lesson. Teachers and education officials told us several times that advance silent reading of material to be explicated in class is standard practice. By the time they are in the fourth grade, children are expected to prepare for lessons by looking up characters and words they do not know.

Children were called upon individually to read aloud sections of The Little Pine Tree. Those selected read well, with expression, and only a slight trace of a local accent. It was apparent that the rest of the class was following the oral reading because everyone turned the page at the same moment. Other sections were read by the entire class in unison.

Midway through the lesson the teacher asked four questions for individual study. These had been written on the board earlier. The class was given time to read silently. Parts of the ensuing discussion went as follows:

T: What happened to the tree after four months?
S: It grew up.
T: Yes. Please be seated. What else?
S: It could see farther
T: Good. How can you tell it can see farther? Find something in the text that supports that.
Same S: [Reads aloud appropriate section from text.]
T: [Corrects pronunciation error. Points out four other sections of the text that also support the conclusion.]
Class: [These sections are then read in unison by the class.]
.
.

T: What function does the concluding sentence of the story serve?
S: [Inappropriate answer.]
T: Be careful to answer the question I ask. Please be seated.
S: It sums up the story.
T: Yes. It explains and sums up the story. Please be seated.
.
.

T: Now, think about the story as a whole. What is the main point?
Ss: [Several students give nearly identical answers that the teacher says are satisfactory.]
T: [Sums up, indicating that the last sentence and several other sentences support the agreed-upon interpretation of the main idea.]

Class: [Unison reading of sections relating to the main idea.]

During the above lesson, a few superior students were called on several times. Many other children bidding for turns did not get one. The answers to questions frequently did not seem spontaneous, since there were few hesitations and no colloquialisms. It is obvious that the class had prepared well, perhaps even rehearsed the lesson in order to impress the foreign visitors.

More spontaneity was evident in an English class in a high school in Shanghai specializing in foreign language instruction. The class was reading a story about an aggressive salesman trying to sell an overpriced fountain pen to the writer of the story. A portion of the lesson appears below:

T: Tell briefly what we have learned from the first two paragraphs.
Several students one after another:
[Responses in clear English which the teacher accepts as satisfactory]
T: [Recapitulates.] Let's read the third paragraph.
S: [Reads fluently.]
T: Please be seated. Did she mispronounce any words? [He corrects one himself.] Pick out words that describe the salesman's manner.
Several students: [Volunteer words.]
T: Write one on the board.
S: [Writes "gesticulate"]
T: What does gesticulate mean? What kind of feeling does it convey?
S: It shows the salesman was eager to sell.
T: Yes.
S: The salesman was acting.
T: Good. Please be seated.
.
.
T: Close your books. Let's see if you can use the language of the book to act out the dialogue between the salesman and the writer.

Class: [The class divides up into pairs to prepare dialogues. After a few minutes, two boys come to the front and enact the scene well. Then two girls come to the front. They also use English fluently and capture the essentials of the episode.]
T: Do you have any comments on the performances?
S: They should have spent more time on the bargaining.
S: The language was not bad.
T: Yes. Both pairs used English well.

These students clearly had studied the story about the salesman very thoroughly before class. However, it did not appear that they had memorized specific answers to specific questions. The exchanges had a fresh and unrehearsed quality.

Both of the lessons I have detailed included activities of the sort that ought to promote comprehension beyond the literal. As a rule, though, Chinese classes seem text-bound. There is little encouragement to consider alternative interpretations.

What is always stressed is precise, fluent oral reading. At the high school in Xian administered by the deputy principal quoted earlier, three times a week there is a 30 minute school-wide contest in reading aloud. The head Chinese instructor at a normal school in Beijing that prepares elementary school teachers told us, "the major language goals for teachers-in-training are correct diction, vocabulary, and grammar."

This seemingly extreme emphasis on the surface of language has to be understood in terms of a national political goal. There are several dialects of Chinese so different that it can be argued that they are separate languages.

Faster progress toward social and economic objectives would be possible if everyone in China could read, write, and speak the same language. Thus, the schools are charged with educating everyone in a common language.

There is a heavy stress on the common language in teacher training programs. At a normal school in Shanghai, we were told that the students there are organized into groups of ten. Group leaders, chosen in part because of facility in standard Chinese, are responsible for promoting the common language. Once a week, the leader presents an evaluation of the Chinese of each student in the group. The evaluation covers the language used during meetings and in everyday life, as well as class recitation.

The preoccupation with the correct diction and grammar of the "common language"--actually the Beijing dialect--no doubt competes in the child's mind with looking below the surface for deeper meanings. One would expect this problem to be particularly acute for children who do not speak the common language at home. Therefore, children from Canton or Shanghai probably have a harder time in school than children from Beijing. On the other hand, China provides children from ethnic minority groups with instruction in their native tongue.

At a "brigade school" serving seminomadic herdspeople, which we visited on the great steppes of Inner Mongolia, the children are monolingual Mongolians. Here all instruction is in Mongolian until the third grade, at which time Han Chinese is introduced as a second language. At the school in Ulanhua, Mongolia, the seat of government of the Banner of the Fourth Prince (an administrative/military designation dating from the time of Genghis Khan), the children are bilingual. In this school, all instruction is in Chinese. Beginning in the third grade, instruction in the Mongolian language is also provided.

The head Chinese teacher at the Ulanhua elementary school spoke of the value of mnemonics and songs in teaching Chinese characters. Though her own accent was thick, she emphasize the importance of correct diction, as educators throughout China do. Observation in classrooms in this school revealed children chanting Chinese in unison who did not appear to know the chants or who did not look at the books open in front of them as they chanted.

During an initially lackluster discussion in an English class at an evening college in Hangzhou, I was asked by a student to compare education in China and the United States. I said that in the United States students are encouraged to develop their own opinions and defend them against challenges from the teacher and other students. By contrast, I said, Chinese students seem shy about entering discussions, deferent to authority, and unwilling or, perhaps, unable to develop their own opinions on important matters.

At this, the dynamic 67 year-old president and founder of the college jumped up and scolded the class. I was hit with a barrage of questions and skillfully-presented arguments on topics ranging from race relations in the United States to the overvaluation of the dollar on world foreign exchange markets. Later I was told that the students relished the discussion and that they wished they had that kind of give-and-take more often.

The deputy principal from Xian voiced the beliefs of many educators with whom we talked: "Traditional methods have strengths and weaknesses. A deficiency is that they don't promote thinking. We want to preserve the strengths of traditional methods, but also absorb ideas from abroad."

The director of teacher training at a normal school in Shanghai that prepares elementary school teachers sketched for us a model lesson that blends traditional and new ideas. The lesson involves a story about a little lizard whose tail fell off. He tries to borrow a tail from a fish, a cow, and a sparrow, but they all refuse. Feeling sad, the little lizard goes to his Mother, who notices that his tail is growing out.

According to our informant, who was described as an excellent teacher herself and someone who frequently gives demonstration lessons, the children would be asked to read the story silently beforehand. The first step in the lesson would be to check to make sure that unfamiliar characters and words were understood. Then the story would be read aloud segment by segment, with an emphasis on fluent, accurate reading. As an option at this point, the teacher might have role playing, with one child playing the part of the lizard, another the fish, and so on.

After the story had been read, the teacher would first ask questions to make sure the essentials of the plot and characterization had been mastered such as, "Where did the little lizard go?" "Whom did he see?" "What did he want?" The children would be required to answer the questions fluently in complete sentences.

Next, the teacher would ask questions, such as, "Why didn't the other animals lend the little lizard their tails?" These are to lead the children to make the generalization that tails have related but different functions.

An activity that might follow, we were told, is showing slides of a ship's rudder. The children would be expected to infer that a rudder has tail-like functions. The teacher would draw out further the analogy between animal parts and man-made things, maybe asking a question such as, "Could there be something man-made that could both fly and go under water?"

The foregoing is indistinguishable from the directed reading lesson, the cornerstone of reading instruction in the United States. In the form promulgated by the Chinese teacher trainer, the lesson would surely promote thinking that goes beyond the text. On the other hand, it does seems accurate to conclude that there is less emphasis on comprehension in Chinese than in American schools. For instance, we did not ever hear prediction questions in Chinese classrooms and they were never mentioned in discussions of pedagogy. On one occasion, a member of our delegation asked a group of Chinese teachers whether they taught study skills. It took quite a bit of explanation before they understood the questions, at which point the response was that it was an intriguing idea--but not something they had ever done.

At the farewell banquet given in our honor the last evening we were in China, it fell upon me to give a speech expressing gratitude to our hosts and comparing education in China and the United States. I enumerated several positive features of Chinese education, notably the close attention that Chinese students pay to their lessons. I then ventured the opinion that achieving the Four Modernizations would require changing education to order to nurture in China's youth powers of reasoning, critical evaluation, and independence in thought and judgment. The dozen or so Chinese educators present, including the teacher trainer from the Shanghai normal school, vigorously nodded their assent. When I finished, our host from the Shanghai Bureau of Education turned to me and said, "I wish to thank you for your candid evaluation. We are aware of this problem and are working to correct it."

ISSUES IN LITERACY FOR A BILINGUAL POPULATION: THE CASE OF CHINA

Mae Chu-Chang
The World Bank

Introduction

China is a country of a billion people where 80% of the population lives in rural areas and no more than 50% of the appropriate age cohort goes on to secondary schools. Those who do go on to the secondary level are concentrated in the cities, and many of the children in rural areas do not go beyond the third grade. Schooling for the majority, therefore, consists of little more than acquiring the basic skills of reading, writing, and arithmetic.

While China does not have universal education, the number of students in primary schools alone (149 million) is already three times the total number of people enrolled in all levels of education in the United States. Apart from the sheer number of students involved, the task of teaching basic skills in China is compounded by the fact that China is a multilingual society where the home language for the majority is not the language of instruction in schools. In addition to numerous national languages spoken by the 60-odd national minorities, who account for six percent of the population, there are also hundreds of "dialects" spoked by Han Chinese from different regions.

The Myth of Uniform Language

The term (Han) "Chinese language" encompasses large numbers of dialects which can be linguistically divided into seven major groups. The word "dialect" is misleading, as the different Chinese dialects are as far apart as some of the European languages. For example, the linguistic distance between the Min and putonghua "dialects" is as great as that between French and Spanish. While Cantonese and putonghua are both considered dialects of Chinese, the two are mutually unintelligible. The concept of "dialects" of Chinese more closely appropriates the concept of French and Spanish being "dialects" of Latin. The term "Chinese dialects" refer to languages spoken by the same ethnic group rather than slight variants of the same language.

In order to unify the country through language, as early as a hundred years ago a national conference was held to standardize the pronunciation of 6,000 characters. After the founding of the Republic in 1911, a National Language based on the dialect spoken in Beijing was made the official language. This language, known to Westerners as "Mandarin," is not used on mainland China and in Taiwan as the official language. The term "Mandarin" is now used both in the People's Republic of China (PRC) as it has imperialistic connotations. The term "National Language" was abandoned by the PRC government after 1949 as it implied dominance of the majority over other ethnic groups. Instead, the terms putonghua or "common language" was adopted to indicate the language to be spoken by all.

It is often said that in spite of the many dialects spoken in the different parts of China, the written Chinese characters are the same for all. Furthermore, the written language can be pronounced according to the dialect of the speaker and therefore does not pose any problem in learning. (Hung, 1972). However, the pronunciation of modern day written Chinese characters has been standardized according to the Beijing dialect, or "common language." Thus the official oral and written languages have become uniform by policy. From an instructional point of view, modern day written and spoken Chinese are only congruent for those who speak the Beijing dialect, and only these people are learning the written form of their native language. For all other dialect groups, learning the written Chinese language is like learning to read a second language. Experimental evidence has shown that Cantonese children who are beginning readers have difficulty reading words and prose passages in standard written Chinese which are incongruent with their oral language (Chu-Chang, 1979).

Policy for Dialect-Different Populations and its Implementation

According to the Commission on Language Reform in 1984: "Because of the variety of dialects in China, everyone is required to speak the common language. The policy is not to replace one's own dialect but to become bilingual in one's own dialect and the common language."

In order to popularize the common language, a goal has been established to use putonghua in 1) government and legislatures, 2) service industries; 3) factories, 4) the military, 5) the mass media, 6) school instruction and 7) cultural events. The focal point of this popularizing effort is to encourage school instruction in the common language, which is to be used not only between teachers and students, but also between students and students.

Apart from popularizing the common language, written Chinese characters have been simplified to improve literacy among the populace. Simplification means reducing the number of strokes in the Chinese characters and using those characters with reduced numbers of strokes as "standards" to be adopted in all print media. In 1956, 517 characters were simplified and by 1960, 2,263 characters were simplified. Most characters are now 15 strokes or less, and the most complex characters do not exceed 54 strokes. Furthermore, for the small number of characters which have several written variations, one form has been chosen as the "standard" for each, and other customary ways of writing these particular characters have been abolished. According to the Commission on Language Reform the trend in simplification is to standardize the component parts in such a way that they are characters in themselves and have names, and so that one can make up new characters from these component parts.

Another measure adopted was to use Pinyin, an artificial alphabetic symbol system, to aid in the learning of Chinese characters. The present policy, according to the Commission on Language Reform, is not to replace Chinese characters with Pinyin, but to use it as a tool to popularize the common language.

At the national level, there is an Office of Common Language Popularization in the Ministry of Education. At the provincial level, there are Common Speech Popularization Committees within the Bureaus of Education which oversee and evaluate popularization efforts in schools.

Many incentive measures have been adopted to popularize the common language. Schools at all levels have frequent contests in the common language, and the winners enter citywide putonghua contests. The first competition in computerized Pinyin was held in April, 1984.

At the school level, particularly in provinces where the dialect spoken is radically different from the common language, much effort is put into popularizing the latter. One example is the formation of "putonghua groups" at Shanghai No. 4 Normal School. Each class of approximately 50 students is divided into four groups, and the students who is most fluent in putonghua is chosen as the leader of the group. Each student is awarded points for speaking in the common language up to a total of 100 points: 80 points are allocated for speaking it during class, 10 points for using it in everyday living, 5 points for meetings, and 5 points for answering questions. These points count toward the oral language components of the Chinese language course. In addition, before graduation the students are given an oral test which is mainly a test of their proficiency in the common language. If a student cannot pass this test, he or she cannot graduate and may even lose a merit scholarship even if he or she fared well in other subjects. However, if he or she has to repeat a grade, financial assistance in the form of room and board subsidies is still given as it is to all other students. In Xian, passing the Pinyin examination is compulsory for entrance to institutes of higher education.

In order to popularize the common language, both carrots and sticks are used to encourage people to speak putonghua and read Pinyin. For some reason, Pinyin, an artificially created written alphabet, has become synonymous with the common language, a spoken form.

Policy for National Minorities and its Implementation

In China, six per cent of the population, or 56 million people, are members of national minorities. There are 58 minority nationalities living in mostly self-contained communities on 50 to 60 percent of China's territory. The Chinese government has formulated a series of policies towards the minority nationalities based on the principle of equality and unity among nationalities. Minority nationalities can set up organs of self-government if they are numerous enough to constitute an administrative unit. At present, there are five autonomous regions, 29 autonomous prefectures, and 70 autonomous counties or banners in China. A significant aspect of Party policy towards national regional autonomy is giving financial, material and technical aid and human resources to national minority areas and helping the local people to develop economically and culturally. One of its main features is to have autonomous area governments pay greater attention to the characteristics, customs and habits of the local people, and have more financial powers than other local governments at the same level.

The policy of equality and unity for minority nationalities is written into the Chinese Constitution:

> The People's Republic of China is a unitary multinational state.
>
> All nationalities are equal. There should be unity and

> fraternal love among the nationalities and they should help and learn from each other. Discrimination against, or oppression of, any nationality, and acts which undermine the unity of the nationalities are prohibited. Big-nationality chauvinism and local-nationality chauvinism must be opposed.
>
> All the nationalities have the freedom to use and develop their own spoken and written languages, and to preserve or reform their own customs and ways. (Author's emphasis)

A general survey in 1956 revealed that there are more national languages than minority nationalities. In some areas several languages are spoken within a minority nationality. There are now more than 60 languages in use, and of these, approximately 27 have their own written languages. Before 1949, only 19 minority nationalities used their own written languages. In 1959, the government began to help other nationalities devise phonetic alphabets based on the Latin alphabet for each of their languages.

Inner Mongolia is a case illustrating the implementation of the policy of maintenance of minority languages and cultures. Inner Mongolia has 19 million people, of which three million, or 15% of the population, are minorities. Mongolians account for 83% of the minorities. There is a system of education from preschool to higher education all using the Mongolian language as the medium of instruction or teaching it as a subject. There are three kinds of schools at each level: those for Mongolians only, those for a mixed population of Hans and Mongolians, and those for other minorities. A detailed statistical breakdown is shown in the table below.

Type of Schools	No. of Schools	Mongolian Only	Mixed	Other Minorities	No. of Students
Kindergarten	60	34	21	5	6,250
Preschool (affiliated with primary schools)					9,790
Primary Schools	3,595	2,732	314	149	422,000
Secondary Schools	396	268	103	25	181,370
Technical/ Vocational	26	8		18	7,530
Higher Education	14 (8 institutions have minority departments)				5,830

It is apparent from the above statistics that segregated Mongolian schools constitute the majority of schools (approximately 60% to 70%) from preschool to senior secondary level. This is not surprising, since traveling from one settlement to the next often requires at least four hours by bus, passing through vast stretches of grassland. Busing for the purpose of racial integration is clearly out of the question. What is significant is that minorities have access to education all the way up to higher education level in a country where only four percent of the entire age cohort can enter higher educational institutions. Furthermore, one also must take into account the fact that most of the children in rural areas do not expect to go beyond primary school level.

Another major feature is the use of students' native languages in instruction from preschool to higher education levels with the goal of maintaining native languages. In most bilingual programs in the United States, if and when native languages are used, they are used as supplements to the majority language to facilitate the transfer of students to all-English classes. An analysis of the figures from the Inner Mongolia Bureau of Education shows that of the 512,000 Mongolian primary and secondary school pupils, 62.7% are taught in their own native Mongolian language, 8.4% are taught Mongolian as a subject along with content areas taught in putonghua, and 28.9% are taught in putonghua only.

We visited two primary schools in Inner Mongolia. One is located in the township of the Banner of the 4th Prince; the other is in the middle of the grasslands and is run locally by the brigade. We were briefed by high ranking Mongolian officials from the Inner Mongolia Autonomous Region Education Bureau as well as principals and teachers of the schools. A striking fact was that all the Bureau officials were perfectly bilingual in both putonghua and Mongolian. In fact, their command of the common language was better than many of the Han officials in other provinces. The briefings, however, were sometimes given in Mongolian, translated into putonghua, then into English.

The school in the township of the Banner of the 4th Prince is attended by children of cadres and town residents. This is a racially mixed area, and many of the Mongolian children do not speak Mongolian when they enter school. Children are immersed in Mongolian from preschool to grade two. All subjects, including music, natural science, mathematics, arts and general knowledge are taught in Mongolian. The school uses the Mongolian textbooks developed by the Inner Mongolian Bureau of Education. Children are taught seven Mongolian vowels and two consonants first, then go on to simple words.

Beginning in grade three, the children are taught Han Chinese for one period each day using textbooks used nationwide. This means that Mongolian children are taught Pinyin beginning in grade three, then Chinese characters. After five years of primary school, Mongolian children reach the equivalent of a third grade level in Han Chinese. It is claimed in the district that the enrollment rate is 100% compared to the national rate of 93%. The completion rate is 95% (compared to 60% nationally) and the pass rate is 61.27%. Passing the examination means that the students have reached fifth grade levels in Mongolian and mathematics, and a third grade level in Chinese.

The Chinese language teacher in the township school, whose putonghua was heavily accented, explained that Pinyin is helpful to those children in learning the common language because they have already been exposed to the common language in their everyday life. In cases where they do not know the words, translation into Mongolian is used. It is not quite clear what the purpose of translation into Mongolian is, as Mongolian is supposed to be the weaker language for children here. A desire to encourage bilingualism is one possible explanation.

Seventy percent of the minority children in the banner go on to junior high (compared to the national average of 40%) and 50% of junior high graduates go on to senior high (compared to the national average of 33%). One caveat that should be attached to these figures is that the schools they attend are national minority schools which have lower standards for graduation than Han schools. Nevertheless, the affirmative action stance taken by the government to provide greater access to education for national minorities should be noted. The goal of such extended educational opportunity is to create a corps of minority members who can become cadres, bilingual teacher trainers, and teachers in all fields. It was indicated that the future trend is toward trilingual education, which would include the teaching of a foreign language such as English or Japanese. This would assist modernization and the development of commerce in Inner Mongolia.

Research Issues

Both the children of national minorities and children of dialect-speaking homes encounter the problem of having to speak and read a second language, with the national minorities often having to learn two written languages based on two different writing systems. The policy is for both groups to become bilingual in the common language in addition to their own languages. However, measures to implement this policy differ with respect to the two groups because of political and ethnic differences. While the government tries to develop written languages using the Latin alphabet for minorities which had only an oral tradition, no attempts are made to use Pinyin (for example) to transcribe different Chinese dialects. According to the Commission on Language Reform, such a measure would create divisiveness. However, this kind of stigma is not attached to the languages of national minorities.

Measures taken to implement the policy of bilingualism are largely motivational in nature, such as contests and peer monitoring. Propaganda is the major device used to popularize the common language among the dialect-speaking population. People who will not speak the common language are considered to not have the "correct attitude," and further motivational measures are used. For national minorities, lack of motivation to learn the common language does not appear to be a major concern; rather, fear was expressed by the officials regarding a decline in the use of the Mongolian language. Publication of Mongolian language newspapers and children's readers are seen as ways to promote retention of the language.

Those motivational measures have been effective to some extent, but even now only 40% of the population can use putonghua, according to the Commission on Language Reform estimate. More can be done to raise the effectiveness of instructional programs if more research were conducted on the linguistic and psycholinguistic nature of the oral and written languages in China. Methods of instruction could be improved to allow for more efficient and effective use of classroom time and to assist the country in reaching sooner the goals of bilingualism and literacy in written Chinese for everyone. Some of the issues that need to be addressed are outlined below.

Effectiveness of Pinyin as a Tool for Instruction

Pinyin has been used for two purposes: a) to help people learn the common language and b) as an aid to learning Chinese characters. Pinyin is not a replacement for Chinese characters, but merely to be used as a tool. The effectiveness of this tool has not been experimentally tested. For people speaking the Beijing dialect, we assume that learning Pinyin does not pose a problem, since the written form corresponds to their oral language.

For people speaking a different Chinese dialect, learning Pinyin is like learning a second written language. For the first purpose of teaching putonghua, Pinyin is the written form of a second language, and using it to teach the spoken language is not unlike having an American learn to read French before learning how to pronounce it. The visual feedback from reading French may aid in speaking the language, but this method may or may not be more effective than learning to speak the language before learning to read it. In the case of children, difficulties could occur, as their first encounter with print is a written language incongruent with their oral language (Ruddell, 1965; Ruddell, 1967; Strickland, 1962; Tatham, 1970). To exacerbate the problem, this written form of the second language is then used to teach the corresponding oral form of the second language.

The extent of the problems of dialect-different students can be inferred from the examples in Shanghai Municipality, where the local dialect is almost unintelligible to putonghua speakers. Pinyin is supposed to have been mastered in the first four weeks of the first grade. However, at the No. 4 Normal School, which is a key secondary school as well as a teacher training school, there are still students who cannot pass the Pinyin examination. The fact that Pinyin exams have to be given at the secondary level is indicative of the extent of the problem. Even some of the faculty members at the school still cannot use the common language for teaching, nor can they use Pinyin themselves. In fact, many of the cadres and teachers we met could not even spell their own names in Pinyin. The exceptions were the Chinese language teachers. It was admitted by the cadres that "in the countryside the problem is much worse, but in the city, Pinyin is not a big problem."

The effectiveness of Pinyin for the second purpose, that of teaching Chinese characters (i.e. using one written form to teach another), also needs further experimentation. Several decades ago, the i/t/a approach was used in the U.S. to teach English reading with limited success. However, I am not aware of any research on using i/t/a to teach reading to minority language children. The advantage of i/t/a is that it has one-to-one symbol-sound correspondence. This advantage is lost in teaching Pinyin to Shanghainese children, for example, because the sounds of Pinyin do not correspond to the oral language repertoire of those children. It should be noted that in Hong Kong, Cantonese children learn to read Chinese characters without Pinyin or any other kinds of phonetic alphabet. Of course, there are success stories of dialect-different children who master Pinyin and subsequently learned many Chinese characters. However, one wonders whether their success in learning Chinese characters was a result of learning Pinyin, or whether it was simply a case of some bright children being able to master two written languages.

In the case of Mongolian children or children of other national minorities, the situation becomes much more complex. Those children are in essence required to be tri-literate in three entirely different scripts. Mongolian script vaguely resembles vertically written Arabic script, and bears little resemblance either to the Latin alphabet used in Pinyin or to Han Chinese characters. For Mongolian speakers, it is instructionally sound to begin with teaching reading in Mongolian script, since it corresponds to their native language. Moreover, the alphabetic nature of the Mongolian script may facilitate learning to read through phonetic mediation. However, by grade three, the children are taught to read Pinyin before they are able to speak putonghua. Afterwards, Pinyin is used as a tool to learn Chinese characters with the aim of abandoning it in later grades. If a phonetic alphabet is considered a necessary tool for mastery of Chinese characters, perhaps one could use the Mongolian alphabet as a diglossia in learning the pronunciation of the characters rather than expending valuable instructional time in teaching an entirely foreign artificial alphabet which is not used in written communication.

The Role of Simplified Characters in Promoting Literacy

A second major issue is the role of simplified characters in raising literacy standards in China. The major argument for simplified characters is that the government has been able to raise the literacy rate from 20% before 1949 to 66% at the present time. However, much of this "success" can be attributed simply to the tremendous increase in enrollment of school age children (from 26 million in 1949 to 208 million in 1979) and adults in all kinds of non-formal and distance education, rather than to any one instructional method or to the use of simplified characters. One ought to note that the government which achieved the 20% literacy rate before 1949 has achieved a 90% literacy rate in Taiwan while retaining the use of complex characters. There is no experimental evidence to indicate that characters with fewer strokes are easier to read than characters with more strokes. Liang has argued that complex characters have greater discriminability than simplified characters. It can plausibly be argued that simplified characters take less time to write because of fewer strokes, but their effect on reading has yet to be determined. Other incidental factors in the simplification of characters, such as the standardization of the components so that each component has a consistent name, most probably make a difference in learning to read. However, those factors need to be experimentally tested before any conclusions can be drawn.

Phonological Mediation of Chinese Characters

It should be noted that the strength of Chinese characters lies in the fact that 90% of them have both a signific (semantic) component and a phonetic (syllabic) component. However, reliability of the phonetic component to indicate the correct sound of the Chinese characters has been reduced due to sound changes over the past 2,000 years. The trend by the Commission on Language Reform to standardize component parts in the compound characters is a step in the right direction. Research is needed on how to increase the consistency of the phonetic components in Chinese characters so that Pinyin need not be a more reliable sound representation than the characters themselves. The Concentrated Character Recognition Method, which highlights clusters with consistent phonetic components, should be further tested as an instructional method which facilitates phonological mediation. The issue of whether Chinese characters in Pinyin are easier to read is also debatable (Zeng, in Chu-Chang, 1984). Pinyin, while consistent in letter-sound correspondence, does not have a semantic component as Chinese characters do.

Conclusion

While Western researchers are discovering motivation to be a key to learning, Chinese educators and administrators have long used it to reach desired learning outcomes. However, in the case of promoting the common language and full literacy in written Chinese, in addition to correct attitudes, experimental research is needed to separate facts from fiction and improve instructional techniques. This could shorten China's Long March towards achieving the goal of a fully literate citizenry.

Suggested research would include psycholinguistic research and controlled experiments in instructional techniques. The major consideration to be included in all experiments is that different results may be obtained for children whose home language is putonghua, compared to those who speak dialects or minority languages at home.

SOME PSYCHOLINGUISTIC ISSUES IN READING CHINESE CHARACTERS

Ovid J. L. Tzeng
Department of Psychology
University of California, Riverside
and
The Salk Institute, San Diego

For most of us learning to read seems to be an easy task which really does not deserve much scientific attention. However, when one considers the proportion of children who fail to learn to read in elementary school, it becomes clear that success in learning to read does not come naturally, as does the analog of learning to speak. In fact, the shocking percentage of reading failure in many countries has led some researchers to conclude that "the problem with reading is not a visual perceptual problem; the problem is rather that the eye is not biologically adapted to language." (Gleitman & Rozin, 1977, p. 3). But the last statement cannot be right, for deaf children have no known problems learning sign language via the "visual" modality. What, then, does contribute to the lack of success in learning to read? Let us examine the situation more closely.

The relation between written scripts and spoken languages seems so close that one would expect that anyone who is able to speak should be able to read. Nevertheless, this is not the case. Whereas almost all humans learn to speak effortlessly and naturally, indicating that there must be a significant influence from genetic facilitation, the situation is very different with writing. Many societies still do not have written languages; and in most literate societies, there are people who cannot read or write, either for social or organic reasons. Thus, for cognitive theorists and practitioners alike, the question becomes: Why do some children fail to learn to read? This question is particularly baffling when the reading failure is completely unexpected and defies common sense explanations. For example, given that the child has already learned the spoken language, and that each letter on the printed array corresponds roughly to a visual analog of some known speech category, it seems that reading should be an easy deciphering task. Yet, this view is simply wrong. Decades of intensive research have revealed that the problem of reading may have something to do with the cognitive prerequisites to understanding one's own spoken language and to appreciating the script-speech relations embedded in a particular writing system (Gleitman & Rozin, 1977; Hung & Tzeng, 1981).

The recognition that purely external linguistic factors may contribute to the incidence of reading disability immediately brings our research focus onto several directions of inquiry. First, what are the linguistic factors which affect the process of learning to read at the entry level? Are they language specific? Second, what are the basic processing components in skillful reading? Again, are they language specific? Third, what are the defining features of reading disability and of acquired dyslexia? Finally, given the varieties of writing systems with different types of script-speech relations (Hung & Tzeng, 1981), how does the brain adapt to these orthographic variations? These and many other questions have been the central concerns of comparative studies of reading across different writing systems. Specifically, we have been trying to find out the ways in which different orthographies mediate between visual perception of a printed array and lexical retrieval. Given the linguistic differences in mapping the script onto speech, the three types of orthographies, namely, Chinese logographs, Japanese syllabaries, and the English alphabet, seem to present different kinds of demands on their readers when they scan an array of print and attempt to convert the visual messages into some types of linguistic codes. Such effects of orthographic variations are most apparent in the beginning readers (Gleitman & Rozin, 1974) as well as in the aphasic patients who have large left hemisphere perisylvian lesions (Coltheart, 1980). Thus, a comparative reading study across these three types of orthographies, with respect to both normal and dyslexic reading processes, would certainly help us to "unravel the tangled story of the most remarkable specific performance that civilization has learned in all his history." (Huey, 1908/1968, p. 6).

In this initial step toward a comparative study of the reading process across orthographies, we cannot hope to answer all the above questions. Instead, we will focus on contemporary research which is concerned with the cognitive and neuropsychological processes involved in reading. In particular, we will raise some psycholinguistic questions and then point out what we learned from our trip to China that might help to answer these questions.

Learning to Read at the Entry Level

While the problem of reading disability is pervasive in languages adopting the alphabetic principle (e.g., English, German, Spanish, etc.), the rarity of reading disability at the beginning level has been noted in languages adopting syllabary and logographic systems (Makita, 1968; Tzeng & Hung, 1980). The ease of acquisition of the logographic system was further attested to by the widely cited study in Philadelphia with a group of second-grade school children with serious reading problems. These children continued to have problems even after extensive tutoring by conventional methods but were able to make rapid progress in learning and reading materials written in Chinese characters (Rozin, Poritsky, & Sotsky, 1971).

While the evidence appears impressive, one should be cautious in interpreting the results reported in the above studies. The study reported by Makita (1968) and the one cited in Tzeng and Hung (1980) were both crude survey reports. In both Japan and Taiwan where literacy is highly valued and a great deal of social pressure is always imposed upon schools to make the school look good, a simple survey on reading disability can never tell the whole story. Furthermore, different countries have different criteria for reading disabilities. As cogently pointed out by Stevenson et al. (1982), the concept of someone possessing a "disability" is very difficult for Chinese and Japanese people to understand. In both cultures, retardation in reading would be attributed to lack of proper training and poor motivation. This kind of mentality was apparent everywhere we went in China. Discussions with teachers, principals, researchers, and parents, from Beijing to Inner Mongolia to Xian, Hangzhou, and to cosmopolitan Shanghai, all confirmed the above statements of Stevenson et al. Casual conversations with them revealed that they just did not have the concept of reading disability as we understand it. Evidence such as that provided above cannot be interpreted too enthusiastically without appropriate cross-cultural controls. Rozin et al.'s (1971) results are interesting, but methodological weaknesses make them less impressive than they first appear. We think it is fair to say that so far no hard evidence has been provided to support the rarity of reading disability in a certain type of orthography (see also Stevenson et al., 1982).

In fact, on the 15th of May we were told by the deputy director of the Commission on Language Reform that most children found Chinese characters difficult to learn, to remember, to read, and to write. Researchers of this Commission seemed to attribute the difficulty to the intrinsic design of Chinese characters. Asked why this should be so, the deputy director could only give us some very superficial reasons. For instance, we were told that Chinese students had to learn thousands of different characters, whereas students of alphabetic scripts had to learn no more than 50 alphanumeric symbols. This interpretation is not useful because it confuses the levels of comparisons. Linguistically speaking, a Chinese character should not be equated with a letter in the alphabetic system. This point has been emphasized many times, but, unfortunately, Chinese researchers keep ignoring it. Also, Chinese researchers seemed to believe that there should not be any illiteracy once the writing system was changed from a logographic to an alphabetic one. When told that there was a serious problem with reading disabilities in countries using alphabetic writing, they just did not understand why this could happen. Thus, our visit was very useful in promoting communication between researchers from both countries. It is timely and important to compare empirical reading data from both countries with respect to some common psycholinguistic issues.

To build our cross-orthography study on an empirical foundation, we should look into reading disabilities in terms of three specific criteria. First, we should examine statistics on general learning disabilities. Second, we should identify in the population of the learning disabled the proportion of disabled readers who have problems specifically related to speech problems Third, we should examine the difficulties of deaf children who have been deprived of speech learning to read a particular orthography.

With respect to general learning disabilities, we should expect to the second criterion, we should expect to find that learning to read effectively is dictated by the special script-speech relation embedded in a particular orthography. In an alphabetic writing system such as English orthography, the script-speech mapping represents a morphophonemic relation (Hung & Tzeng, 1981; Venezky, 1970). In order for a reader to be able to recode the printed word into its phonological representation, he/she must have developed some kind of "linguistic awareness" concerning the spoken language and he/she must be phonologically mature enough to be able to see the morphophonological regularities inherent in the script-speech relation of English orthography. Many investigators have argued that these two special demands may account, on the one hand, for the elusiveness of the alphabetic principle in the history of writing systems and, on the other hand, for the frequent failure of learning to read among American children. Many other studies have also found correlations, ranging from .38 to .84, between phonemic awareness and learning to read English. However, the directions of causality in these studies is controversial (Stevenson et al., 1982).

No useful statistics on the first two criteria were available in China. Disability due either to neurological or cognitive deficits is just an alien concept to Chinese researchers.

The third criterion listed above may be the only true test for the ease of learning a certain orthography. Without the experience of speech and now forced to learn a writing system which is parasitic on an unfamiliar spoken language, it is no surprise that deaf children have difficulties in learning to read. The question is: Will they find learning to read Chinese easier than learning to read English? We have a lot of statistics to suggest that deaf readers do not cope well in learning to read English (for a review see Hung, Tzeng & Warren, 1981). For example, in a large-scale study carried out in the United States in 1974, a special version of the Standard Achievement Test was standardized on a sample of nearly 7,000 hearing impaired students. The median score on the paragraph reading subset reached a grade equivalent of about 4.5 among students aged 20 and above. Comparable statistics are not currently available about the reading achievement of deaf children in Japan and Taiwan. However, there are reports from secondary sources which indicate that deaf children of these countries find it just as hard as American deaf children to learn to read their respective writing systems. For example, it has been reported that among one quarter of a million or so deaf people in Japan, 25% are considered illiterate and the rest semi-literate. Similarly, in a book dedicated to the promotion of education for deaf children, illiteracy is also listed as the number one problems among the deaf population in Taiwan. How about Mainland China with its huge population?

On the 17th of May, we visited one of the schools for deaf children in Beijing. Compared to other elementary schools we visited, this school was apparently not as well funded. A lack of qualified teachers was immediately apparent. The students were taught orally and signing was prohibited in the classroom. The principal was a very concerned and dedicated teacher himself. During our formal as well as informal conversations, he asked questions such as: What is the relation between language and thought? What should the first language of these deaf children be? What is the best age for these children to go to school? What kind of research are Americans doing? Is there any dialectic difference in American Sign Language between different regions of the United States? (He noted that there were different sign languages in Beijing and Shanghai.) We recommended to him some recent research reports from the United States which addressed such questions. He sensed the inappropriateness of current practice (in both teaching and policy making) and wanted to find out how other countries solve the above-mentioned problems. This observer's evaluation of the situation was that the Chinese deaf children are very neglected. It was certainly welcome news that the first Department of Special Education will soon be established at Beijing Normal University.

I did have a chance to examine children's reading achievement and, based on teachers' observations and students' performance in the classroom, there seemed to also be serious reading problems among Chinese deaf children. The lack of contact with the oral language impeded their acquisition of Chinese syntax. For example, they had a particularly difficult time dealing with the problem of quantifiers, which is notoriously complex in Chinese. Also, they usually missed writing one or two characters in a compound-character words. However, one particular observation should be mentioned: characters were usually well written and drawings of these children seemed to be very sophisticated compared to those of deaf children in the States. Could learning to write Chinese characters enhance their reception of spatial-graphemic relations in a two dimensional layout?

Thus, although precise statements are difficult to make, it does seem clear that there is no such thing as an easier orthography at the entry level of learning to read. Scripts, regardless of their orthographic principles, were developed mainly to transcribe speech at various levels. A deaf child, being deprived of speech, would have difficulty in attempting to decipher the script-speech code, and this difficulty seems to be a universal one. However, this conclusion should still be accepted with caution since the data base from which it is drawn is only a very crude estimation. The picture is further complicated by the misunderstanding of sign languages and their relations to the written scripts. Thus, retardation of reading ability among deaf children may be due to inappropriate intervention programs and have nothing to do with orthography. Careful specification of the error patterns which emerge during learning to read must be done in order to get at the processes of how to integrate print with meaning.

Hemispheric Specialization for Processing Chinese Characters

There is a reading disability in children that is known by a variety of titles, such as word blindness, strephosymbolia, congenital alexia, specific learning disability, specific reading disability, and specific reading retardation to dyslexia, or congenital, specific, or developmental dyslexia. It is still not known whether this is a single syndrome or a loose collection of vaguely related disabilities. Some researchers attribute children's failure in learning to read to the neuropsychological deficits of their cerebral organization. As mentioned before, orthographic variations embedded in the script/speech relations have to be accommodated by our brain. In this connection, specification of the interactions between orthography and cerebral organization can provide us with important information concerning the neuropsychological pathways between print and meaning. This type of cross-language investigation at the neuropsychological level has just begun. However, experiments from the past several years have already generated interesting and exciting results at both theoretical and practical levels (Hung & Tzeng, 1981). For example, some investigators of brain function have taken evidence of the right-hemisphere reading of "ideographic" symbols to support the hypothesis of right-hemisphere language. Hence, examination of brain function with respect to the reading of Chinese characters is one of the hot issues in psycholinguistic studies of visual information processing.

The human cerebral cortex is divided into left and right hemispheres, and presumably the two hemispheres function cooperatively in normal cognitive activities, including reading. Nevertheless, the idea that these two hemispheres may assume different types of functions has been intensely studied over the last 100 years (see review in Hung & Tzeng, 1981). The term lateralization refers to the specialization of the left and right hemispheres of the brain for different functions. Experimental findings of and the rationale behind the visual hemi-field experiment and the actual experimental set-up have been reviewed by many researchers. Suffice it to say here is that in recent years there have been suggestions that learning to read different writing systems may result in different patterns of visual lateralization.

The idea that patterns of hemispheric lateralization may be script specific is not new. In the 19th century, Dejerine described a syndrome of "pure alexia" which he believed to result from a separation of the "center for visual images of letters" from the "center serving their verbal interpretation." He predicted that there should be cases in which patients' ability to read numerals would be spared despite their inability to read words, because the former task involved only symbolic activity while the latter involved "verbal" activity. This prediction was soon confirmed by Hinshelwood (1899) in five patients who could not name the individual letters, yet were able to read numbers quite successfully. Similar observations were also made by other researchers in recent years. But the most fascinating cases were reports of Japanese patients who showed selective impairment in reading Kana (a syllabic script) and Kanji (Chinese characters, a logographic script), depending on the site of damage.

It should be noted that up to 1975 the general consensus still regarded the left hemisphere as the only center for processing both Kana and Kanji scripts. The story, however, changed a little bit in 1977 when differential patterns of visual-field advantages were shown for the recognition of Kanji and Kana scripts (see Hung & Tzeng, 1981, for a review). For example, it has been observed that tachistoscopic recognition of phonetic-based scripts tends to show a right visual field-left hemisphere superiority effect, whereas recognition of logographic symbols tends to show a left visual field-right hemisphere superiority. A cerebral orthography-specific localization hypothesis was then proposed to account for this data (Hatta, 1977). That is, it was suggested that the Chinese characters, due to their complicated visual forms, were better processed in the right hemisphere. This seemingly straightforward hypothesis was soon challenged by Hung and Tzeng (1981) who pointed out that the observations made in the Japanese studies were at odds with findings reported by Chinese studies which in general showed a significant right visual field advantage for processing characters in a tachistoscopic recognition paradigm. Of course, these different experimental results might be due to the employment of different subjects who happened to speak two different languages. But a careful examination ruled out such an explanation, and Hung and Tzeng went on to demonstrate that the differences were in fact due to procedural differences in these two sets of experiments. The essence of their conclusions, based upon the results of two further experiments, was that one might be able to obtain a left visual field advantage for processing *singly* presented Chinese characters are carried out in the left hemisphere, just like those of the alphabetic writings.

In the years that followed, a number of visual hemi-field experiments dealt with the processing of Chinese characters in diverse settings, and more refined questions were being asked. The controversy of whether there has been any evidence for the right-hemisphere reading of Chinese characters continues to occupy the mind of many researchers from America, Japan, and China. There was even data available on split-brain patients. I was so eager to find out any information on this particular issue that I spent some additional time and effort to meet researchers at the Institute of Psychology at Academica Sinica and the Department of Psychology at Beijing University. I also went to their libraries to read their psychological journals and hoped to find more information pertinent to the issue of perceptual as well as cerebral asymmetries. The results were not very encouraging.

During the Cultural Revolution, all psychological departments were closed down. No psychological study of any theoretical interest was carried out. After the Cultural Revolution, the Institute of Psychology was reinstated within the Academica Sinica and four psychological departments were reestablished in four major universities (Beijing University, Beijing Normal University, Hangzhou University, and East China Normal University in Shanghai). Their research work is still focused on nature. However, attention has recently been directed toward the developments in cognitive sciences. Hence, studies related to reading and neurolinguistics began to appear in their official publication, Psychologica Sinica. The quality of the work is uneven and I found a lot of misunderstanding about the basic concepts of information processing. For example, I found several reports on the chunking process in short-term memory, but the measurement of the size of each chunk was based upon the ordinary free recall procedure instead of immediate memory span. There were also clinical reports on brain damaged patients, but the figure of 19% crossed-aphasia was baffling because both Japan and Taiwan did not have comparable figures (there is about two per cent, which is comparable to those in American reports). The only reasonable interpretation is that the handedness measure was not precise enough in China, and that consequently, many left handers were included in their survey. It seems that Chinese researchers, after so many years of lagging behind, are so eager to catch up with the latest advances in the field that they forget it is also important to build a solid foundation below. As to whether there is any evidence for the right-hemisphere reading of Chinese characters, the answer is no. There were indeed two cases of split-brain patients, but their reading data remains to be analyzed.

Specification of how our brain organizes its various cerebral functions to interact with various orthographic principles (i.e., different script-speech relations imbedded in different writing systems) is an important step toward our understanding of human cognition. Differences in the design features between the Chinese logograph and the English alphabetic writings provide many opportunities for theoretical and empirical comparisons. The Chinese investigation is still at a beginning stage. However, Chinese investigators are learning fast, and when they build a more concrete foundation, they may be expected in the near future to make important contributions to our understanding of reading Chinese characters.

Concluding Remarks

Three weeks in China were not enough. We observed students' activities at every level of schooling. I was most impressed by the teachers' dedication to educating their young and students' commitment to learning. However, China still has a long way to go in establishing research capabilities at the university level, especially in the area of social sciences.

With respect to psychological studies in reading, Chinese script does have something important to offer, but Chinese researchers need to familiarize themselves with concepts and techniques related to the componential analysis of basic reading processes. They are going to face continuing debates over the merits of traditional characters and of the recently invented Pinyin system. It is important that they learn to settle the issues through empirical results rather than through some authority's intuition. In Shanghai, we heard some strong opinions against the Pinyin system. Unfortunately, the arguments presented were equally controversial, and, worst of all, the evidence was based on uncritical acceptance of western research, such as the one in Philadelphia.

For those who favor the use of traditional characters, there is in fact an implicit recognition that children do have a problem in learning to read characters at the beginning level. Several experimental programs in introducing characters have been started. In the years to come, researchers will vie with each other in proclaiming the success of their own pet programs. As for outsiders, we can certainly learn a great deal from the data and arguments of different groups. I hope in three years time we will visit China again, and stay longer at fewer schools.

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READING ACTIVITIES OF CHILDREN AND ADULTS

John T. Guthrie
International Reading Association

Reading in Contemporary China

> I am not one who was born
> In the possession of knowledge;
> I am one who is fond of antiquity
> And earnest in seeking it there.
> --Confucius--Analects, Book VII, Chapter XIX

Historical and literary heritage is immeasurably important in contemporary China. The current patterns of reading activities and educational programs for teaching and writing rely heavily on classic texts. Appreciation that borders on reverence for classical writings and writers is broadly encouraged in school and maintained with delight by adults of all ages.

The power of literacy in maintaining traditions is apparent in many religious and educational institutions. For example, a temple honoring Confucius contains large marble slates of Confucian writings. Nearly a thousand large granite plates inscribed with the Book of Rites and other Confucian teachings are regarded by Chinese with a mixture of awe and pride. Not only the messages but the written characters themselves were revered. There is one folk belief that a person who used inscribed papers for toilet purposes would be struck dead by lightning. Books are especially treasured and it was reported by one Chinese that some people think that if a person accidentally steps on a book, he must pick it up and place it on his head momentarily for appeasement.

Buddhist temples in China are heavily adorned with scriptures in stylized calligraphies. The calligraphy itself is aesthetically appealing. Many art forms such as rubbings from tablets preserve the artistic dimension of sacred Buddhist scriptures. In temples, ancestors are venerated by extended families. In high ceremonies, about six to eight Buddhist monks chant prayers, and the chanting is ceremoniously tied to written scriptures. Small prayer books are read by each monk and pages are turned in choreographed motion.

The maintenance of cultural traditions, however, does not occur merely by observation of religious rites or sacred writings. Participation in cultural activities and traditions requires acts of reading and writing. Indeed, social status in China has not been based on wealth or military accomplishment. The most important criterion for membership in the highest class has traditionally been scholarship, consisting chiefly of mastery of the Confucian classics, which in turn led to imperial honors and bureaucratic power.

What do people read? For the large proportion of individuals today who never become scholars nor attain high governmental rank, reading activities nevertheless adhere to the pattern of reverence for classical literature. On the streets in many cities that were visited by the Reading Study Team, lending libraries could be observed. These consisted of small portable display cases containing small paperback books. The cases were located on the edges of the sidewalks and were frequently surrounded by avid readers. One lending library that we observed contained 450 books, 2 inches by 3 inches, each containing about 100 pages. According to the vendor, readers could rent a book for three *fen* and consume it on location sitting on a small stool. It could be observed that approximately 50% of the books were on the topic of traditional martial arts; about 20% were stories of romance, and approximately 20% were historical tales and legends. There were also comic books available for young children.

At these lending libraries, young men 20-25 years old could be observed reading martial arts books. Young couples were reading stories of romance, while elderly people were absorbing historical tales. Discussions with readers in one library led to the conclusion that reading well-known traditional stories was popular because they could be shared with friends. Having a well-lit place was essential since homes were usually crowded and did not provide enough light and privacy for reading.

According to the vendors of lending libraries and salesmen in bookstores, the most popular reading material among young men was a collection of stories known as "The Thirty-six Strategems." As the introduction to one edition explains,

> "The Thirty-six Strategems" is a set of ancient Chinese military strategies with a very strong philosophical sense. They have been known to the public for a long time. Using the old historical wars (edited in cartoon style) as examples, we concretely, abstractly, and vividly explain the strategy of every trick. To the public, especially to the youngsters, this set is very helpful in enhancing military knowledge.

Included in this set are six volumes, each with six strategems. Volume 1 is entitled *Strategems to Win the War*. The first story is called "Openly Crossing Through the Air and the Sea;" The second, "Surround the State of Wei to Rescue the State of Zhao;" the third, "Use Another Person's Knife to Destroy Someone;" the Fourth, "War the Enemy Out with Ease;" the Fifth, "Take Advantage of a Fire to Attack and Rob the City;" and the sixth, "Make a Noise in the East, Strike in the West."

Publishing programs in China at the present time that are directed toward the public rely heavily, if not exclusively, on classic literature and narrative. Scheduled to be published on October 1, 1984, for example, is the first section of an encyclopedic "New Literature and Art of China." This collection of works, originally published from 1976 to 1982, will appear in 27 volumes. During the period of 1976-1982, there were 20,000 short stories published in China. This sampling contains only 143 of these stories, of which 70% were prize winners.

Each volume in this selection of literature covers a specific field of art, including short stories, poetry, essays, reportage, children's literature, minority literature, drama, literary criticism and theory, articles on theatre, film, television, music, dance, acrobatics, painting, calligraphy, sculpture, photography, and folk arts. This series is published by the Chinese Federation of Literary and Art Circles Publishing House and stands as one of three major publication projects that has been completed since the end of the "cultural revolution" which produced an inestimable setback to publishing and reading.

Books about history are not only published, they are also read, according to circulation figures and reports of booksellers. For example, according to officials at the Educational Publishing House in Shanghai, one of their most popular books is entitled Up and Down for 6,000 Years.

The reading activities of adults are unique in one particular aspect. Throughout China, in urban centers and rural villages alike, newspapers are posted for public reading. Along the edges of sidewalks and on the borders of parks, newspapers are spread out behind glass in wooden frames. In Beijing, for example, seven different newspapers are posted on a daily basis in hundreds of locations. During the visit of the American Reading Study Team, 14 new locations were added.

One advantage of this mode of display for the student of reading activity is that the content selected for inspection can be observed objectively. In eight locations in different urban centers and villages, the author observed the population and the choice of content for reading. These posted newspapers were read primarily by men who appeared to hold many different occupational positions. Construction workers, small merchants, bureaucrats and administrators with briefcases could be seen peering over one another's shoulders in search of recent news. The content chosen for reading consisted most frequently of national news. A second popular content area was letters to the editor which usually expressed complaints about the inefficiency of government programs. International news, economic issues, and social development programs were less popular than national news and letters to the editor. Sports drew surprisingly little attention.

Criticism of government programs makes popular reading in a variety of forms. Political cartoons and satire are gaining in ascendancy. For example, the New World Press recently published a collection with the title Chinese Satire and Humor: Selected Cartoons of Hua Junwu. These cartoons satirize government bureaucracy along ten themes: the absence of public spiritedness, the foibles of bureaucrats, flaws within the cadre system itself, lack of competition among state-owned enterprises, parental irresponsibility in child-raising, truancy among workers, the monotony of Chinese cultural events, lack of creative writing, and human weaknesses such as insincerity and opportunism. One cartoon depicts two disappointed pilgrims who have come to worship before a statue of the Maitreya Buddha, only to discover that the Buddha is "closed for prayer recitation." The caption reads: "The laughing Buddha learns bureaucratic business methods."

Because it is recognized that reading is valuable for modernization, literacy programs have been initiated in some of the provinces. For example, in Jiangxi, a hilly province in East China, the Bureau of Education has declared that a literate person is one who can read and write 1,500 characters. To those who achieve this level, "literacy certificates" are awarded. With a yearly expenditure of $1.5 million, the province has enabled 180,000 persons to win literacy certificates. One recipient, Xiao Guanming, said that he happened to read about breeding soft-shelled turtles in a newspaper. By following directions in the paper he made a profit of 1,500 yuan ($800) during the next year. The young peasant attributed his profit to the literacy campaign.

Adult training for reading activities that will yield economic benefits may also be found at the Qianjiang Spare-time Adult College in Hangzhou. Admission to the college is highly selective and based on examination. A motivated group of adults from 25-35 years of age studies Chinese and English for a variety of purposes. Dominant among rewards hoped for from this education are commercial jobs in banking institutions and opportunities for work in provincial administrative bureaus. Personal pleasure in reading and writing for enjoyment were also reported by students in classes at this school.

The reading activities of students and preferences for different types of content have been the subject of a unique survey. This is the only such investigation of reading activities in China known to the author. The Shanghai Publishing House conducted this review of the extracurricular reading of secondary school students. Included in the survey were all nine secondary schools in Shanghai during December 1983. A total of 2,500 students from junior and senior high school levels were included.

Findings from the survey were reported in terms of the percentages of students who read books on a certain topic. In the table below, entitled "Independent Reading Preferences of Students," the findings are recorded according to which school was attended and which contents were preferred.

Independent Reading Preferences of Students

Topic	Songjiang (high school)	Xinwu (jr. high)	Jo-Ting (jr. high)
Literature	68%	96%	--
Mathematics	51%	70%	62%
Physics	49%	53%	68%
Chemistry	41%	22%	67%
Thought discipline	35%	6%	--
History	27%	11%	46%
Biology	21%	--	21%
Geography	13%	8%	14%
Political theories	10%	1%	--

The first trend that can be observed in this data is that literature exceeds other content areas by a considerable margin. This is consistent with the emphasis on the classics in school reading programs and Confucianism. Particular favorites by these students were classic novels such as All Men Are Brothers, Travels in the West, The Three Kingdoms, and The Dream of The Red Chamber. Reading fiction is fostered by the practice of having speech contests in schools and special organizations such as the Children's Palace. Popular topics in these speech contests were drawn from books published by the Shanghai Educational Publishing House, particularly Historical Stories of Modern China and One Hundred Proverbial Stories.

A second visible trend is the reading of math and natural sciences. Students undertake this activity on their own time, independently, for the purpose of aiding them in competing in the college entrance examinations in the field of science. It should be noted that these trends for preferences in reading contents occurred for secondary students who are a highly select minority in the population. These preferences are not general to the youth of China nor to the adult population.

These broad statistical patterns were confirmed by one lad who was interviewed by the author in Beijing. This boy was 14 years old, living with his parents and sister, and attending a key municipal school. He had an interest in collecting stamps, particularly architectural items. He enjoyed volleyball and listening to sportscasts on the radio. The boy's parents were both teachers with particular interests in national news and journalism.

His independent reading activities are highlighted by his delight in martial arts stories that are shared among friends. On the particular day of the interview, he had spent 45 minutes during his lunch period reading a classic, Sanxia Wuyi. He borrowed the book from a friend who had recommended it as exciting. The other recreational reading of this lad was focused on international political events. He usually browses through the Beijing Evening News, Readers Digest News, China Youth, and Information Exchange, since these are received at his home and are the topic of discussion in the family due to his parents' vocational commitments. One the day of this interview, he spent about 20 minutes reading these newspapers with an emphasis on their international pages.

This student typically spends about 80 minutes a day on homework. This figure is similar to the expectations for homework expressed by many teachers. His typical practice is to read geometry for about 30 minutes, physics for about 10 minutes, and Chinese language for about 20 minutes nightly. To this should be added about 20 minutes of study that does not occur directly within the classroom and is not assigned nor graded by teachers. These figures agree reasonably well with the content preferences for junior high students in the survey from Shanghai.

To round out the reading activities of this student, reading within the school day must be noted. During physics class, about 20 minutes are spent reading the text as part of the lesson. In geometry about 10 minutes are spent in text reading, and 2-3 minutes are consumed in Chinese language lessons with reading activities. An independent study period, or study hall, at 7:30 in the morning, is typically spent studying handwritten notes in preparation for exams or reading texts from different subjects such as history.

The total amount of time spent reading in class in a typical day is 40 minutes for this student. By combining his time spent in independent reading--65 minutes, homework or study--80 minutes, and class reading--40 minutes, a total of 185 minutes per day reading for this student can be estimated. This figure is relatively high for junior high students in any country, but it is reasonable in view of his parents' commitments to teaching and journalism, his own love of literature, and his placement in a key school.

Curriculum Materials in Schools

To observe reading instruction in China, the American Reading Study Team made visits lasting approximately one-half day to each of nine schools. These visits included preschools, elementary schools, junior and senior high schools, adult and foreign language institutions, in rural as well as urban settings. In each school, briefings preceded classroom visits and consisted of a description of school, faculty, curriculum, student body composition, and special programs. From two to eight classes were visited in each school, for periods of approximately 30 minutes each. Emphasis was placed on language instruction, since reading is not a separate portion of the curriculum in Chinese education. In addition, content area classes, including geography, chemistry, history, were visited, and English classes made presentations for the group.

The content of the curriculum for language instruction consisted almost exclusively of classic literature, history, and "ideology." The term "ideology" was used to encompass the inculcation of a spectrum of virtues, such as honesty and diligence as well as patriotism and Party loyalty.

An example of the language instruction curriculum for first grade may be drawn from a widely used reading text entitled The Language Reader, Volume 1. This is a reader designed for the five-year elementary school system, issued by the People's Publishing House in Beijing. Since the lessons provided to children are exclusively grounded in the written text, a description of the materials themselves will serve to represent the curriculum. As the following excerpts illustrate, the first-grade materials are not particularly "classical," due to the need for teaching Pinyin and simple characters. The higher levels, however, are more "traditional."

The table of contents for the first book used in first grade appears as follows:

Page

The First Day of School 1

Chinese Pinyin 5
[In these pages, a total of 25 letters with their sounds are associated; 25 two-letter combinations (eh) and their sounds are associated; and 10 three-letter combinations (ong) and their sounds are associated.]

Character Recognition with Pinyin and Illustrations 26
[Picture-Pinyin-character associations are taught.]

Character Recognition with Pinyin and Illustrations 38

Learning Phrases and Sentences through Illustrations ... 40
[A picture and a phrase are presented on a page and read aloud.]

1. Love Communism 50
2. I Love the People's Republic of China 52
3. The Large Bridge 54
4. Electricity 56
5. Rice Plants and Cotton Plants 57
6. Chickens, Ducks, and Geese 58

In the fourth-grade reader for this basal series, a significant thread of classics was woven. Of a total of 34 sections, five were devoted to poetry, fables, and excerpts from classic novels. The poems included: "Visiting the Hermit who Was Not Home," "Writing and Singing on the West Wood Wall," "Watching the Waterfall on Mount Lu," and "Boating Near the Maple Bridge at Night." One of the fables was entitled "A Man Obsessed by Things Relating to Tigers."

Classical stories are used as a prominent strand in educational materials throughout the elementary grades. The following examples contain titles and the opening lines from a collection published under the title Favorite Children's Stories from China.

> "Pigsy Learns a Lesson"
>
> Monk Xuan Zang, escorted by three disciples, Monkey, Pigsy, and Sandy, was traveling to the West to receive Buddhist scriptures.
>
> "Ling Dang"
>
> When Ling Dang was five-years old, his mother died. And when the grass that grew on his mother's grave was still green, his father brought home a widow from far away in an ox cart as his new wife.
>
> "The Dragon Princess"
>
> Once there lived an old dragon in the palace near the East Sea. One day, the dragon found a red bird's egg by the seashore. She ate it and gave birth to a princess.
>
> "Ma Liang and His Magic Brush"
>
> One time there was a boy named Ma Liang, whose father and mother had died when he was a child, so that he had to earn a living by gathering firewood and cutting weeds. He was a very clever boy and longed to learn to paint but he could not afford to buy even one brush.

These titles and excerpts illustrate the difficulty level and the settings of narratives that are the educational staple for these elementary school children. The Foreign Language Press in Beijing has recently published a large number of children's books of this kind. They generally encourage the love of study, work, science, cleanliness, cooperation, and respect for others. For example, this Press released in June 1984, A Beautiful Dreamer, with drawings by Jiang Cheng'an and Wu Daiheng. A promotional piece for this book says,

> A restless and scatterbrained bird wants one day to learn to fly, the next day to learn to swim, and the next to learn how to treat tree diseases from a woodpecker. Of course, she succeeds at nothing. Finally with the help of her friends, she realizes her shortcomings.

One example of ideological education was given at the Elementary School on Youth Road in Xian. Following an introduction by Mr. Bai, the Principal, the Reading Study Team observed a fourth-grade class which consisted of 56 students.

When the group entered the classroom, the students were reciting a classical poem in unison to conclude a lesson. The study team observed Lesson #29, which contained a text by the title of "The Pine Tree" (an anthropomorphized evergreen). The gist of this text was that as the pine tree grew, it got more light and a better view. With sustained perseverance, one may reach high and have a broad field of vision.

The educational approach that is taken to these texts places an explicit emphasis on correct pronunciation of characters, expressive oral reading, literal comprehension of each sentence, and verbatim reproduction of text units as the only means for answering questions. The cognitive processes required by the pegagogical strategies of teachers consist of precise memory for Chinese characters and flawless reiteration of the contents of the selections.

These instructional trends could be seen in a kindergarten class at the Beijing Normal University Experimental School. Children were taught to visually recognize and correctly pronounce approximately 16 characters during the 30 minute lesson the group observed.

In elementary classrooms, the Study Team observed the following typical pattern of language instruction: (1) students look up unknown characters prior to lesson, (2) group choral reading of text, (3) teacher questions students on a paragraph-by-paragraph basis by asking, "What do we learn from this passage?" or "What makes this passage significant?," (4) students respond by reading a selection from the text that answers the teacher's question. It must be acknowledged that, despite the pervasiveness of this procedure, teachers in the Jingshan School of Beijing, which is a model by all Chinese accounts, asked more thought-provoking questions. Student interpretation of figurative language was requested by the teacher and given readily by students. This lesson, however, seemed to be the exception that proved the rule that learning language is learning to recite.

In content- or knowledge-oriented classes, the reading activities of students were sustained along the same lines as they were in language classes. For example, in the Shanghai Experimental Elementary School, a sixth-grade geography class illustrated content area reading. They used a 52-page book of a relatively small size (3 inches by 5 inches) on the subject of Latin America. After choral reading of a two-page segment on animals in the Amazon, the teacher posed the question, "What animals were described in the book?" The children read answers from the text about lemurs and leopards. In a history class in the seventh grade of the Foreign Language Institute in Shanghai, students read a text aloud, listened to a lecturer restate portions of the text, and took notes (if they desired) by underlining the text.

The English class of the Shanghai Foreign Language Institute was oriented to reading activities that were occasioned by questions from the teacher such as, "What did you learn from the first paragraph of this text? And what did you learn from the third paragraph?" The Xian Secondary School in Shaanxi Province offered language instruction in which the avowed goal was to master classical Chinese authors. In class, students were expected to have looked up unknown characters prior to the class period and to be capable of excellence in recitation. Teachers then asked, "What is the main theme of the first section? And the second section?" Students were remarkable in their capability to locate concise phrases and clauses that captured the portion of the text addressed by their teacher's inquiry.

Literacy Rates

The nature of the cultural functions served by reading at any particular point in history is related to the extensiveness of literacy. In certain Third World countries, literacy is restricted to those with religious or governmental privilege. In other cultures where literacy is universal, on the other hand, a substantial proportion of the population may participate in the culture through avenues that are opened by the literature and reading material that are available.

The literacy rates in China have been estimated in a report by the General Census Office of the State Council and the Population Statistics Department of the State Statistics Bureau in 1982. In this report, it was found that 31.9% of the population over six years of age was illiterate. These figures can be subdivided according to the following table.

Extent of Illiteracy in China--1982

Beijing (Municipality)	15.3% (illiteracy)
Shanghai (Municipality)	16.5%
Inner Mongolia (Autonomous Region)	31.4%
Hubei (Province)	28%
Jiangxi (Province)	33%
Xian (Province)	32%
Qinghai (Province)	48%
Yunnan (Province)	50%
Tibet (Autonomous Region)	75%

It is apparent from these figures that illiteracy for the over six-years population is approximately 15% in large cities and is generally about 30% in the more economically developed provinces. In the more remote areas to the west, including Tibet, the illiteracy rates increased to 50%-75%.

The criterion for literacy used in these estimates is not altogether satisfactory. Although it is not specifically stated in the report, it can be inferred from the pattern of statistics that the criterion for literacy is attendance at primary school or higher levels of education. The percentages given in the table on illiteracy were proportions of individual's who did not attend primary school. Needless to say, this is not a precise indicator of whether individuals have attained reading proficiency. More individuals are likely to attend school and fail to learn than to learn on their own outside of school. Therefore, these numbers may underestimate the extent of illiteracy.

To complicate the problem, different sets of characters may be learned for specialized forms of literacy. According to Rawski, in the 19th century, before the simplification of orthography, it was possible for individuals to acquire literacy which sufficed for commercial transactions without being able to read a newspaper. Thus, the individual may have attained one form of literacy without attaining a second distinct form.

It seems plausible today that a person could read a large enough number of Chinese characters to comprehend a newspaper (although the precise number required is uncertain), but not be able to read the vastly larger number of more complex characters needed to discern the meaning of classic Chinese texts. If this is the case, then a popular form of literacy needed for newspaper reading may be acquired by some proportion of the population, but the reading of classical literature may not be possible for the same segment of the population. As a consequence, there are probably different categories of literacy that are related to the segments of the culture for which they are pertinent. Therefore, the estimate of a single level for a single person may not be suitable and, in turn, the estimate of a single figure for a city or province may be inappropriate. Distinguishing different categories of literacy that may be useful for participating in different segments of the economic, educational, and literary-historical aspects of Chinese culture may be needed to improve the estimates of literacy and foster education for reading and writing.

Due to a combination of reasons, there is a relatively high degree of selectivity in the Chinese education system. This selectivity can be represented by the proportions of individuals who have attained various levels of schooling according to the 1982 census report. The proportions are listed in the table below.

Educational Attainment--1982

	Percent of Population
College graduate	.5
College level	.2
Senior middle school (high school)	7.5
Junior middle school (junior school)	20.0
Primary school	39.9
No schooling	31.9

These figures make it clear that nearly a third of the Chinese have not attended any school. Of the 40% that attend primary school, approximately half progress to junior high school. Of this group, approximately one-third go on to high school. And perhaps one-seventh of this group then receives what is known as higher education in the West. Admission into each level of schooling beyond primary school is by examination. These examinations consist of language and math sections with other content areas being required at the college level. Needless to say, this selectivity is due to many factors including: (1) the fact that the population is 80% rural, (2) the lack of teaching personnel, (3) the low number of school facilities and (4) the tradition that higher levels of scholarship need be made available only to an elite who form the literati-bureaucratic class. These forces limit the volume and variety of reading and writing activities that are commonplace in a large portion of the population. Since 90% of the population has less than a high school-level education, this large proportion of the Chinese populace must struggle with reading and writing tasks that contain technical, scientific, or conceptually intricate prose.

Recent increases in the number of students enrolled in schools at primary and secondary levels foreshadow an improvement in educational attainment and literacy rates. Enrollment rose in educational attainment and literacy rates. Enrollment rose from 70% to 93% of primary-age children during the decade of 1970-1980. Secondary school enrollments increased from 30% in 1970 to about 50% in 1980. These expansions of education at both levels represent substantial commitments to educational progress and will enable China to rely more heavily on literacy to facilitate economic and personal development.

Policy for Literacy

Until quite recently, educational reforms have not been included in major debates and investments in post-Liberation Chinese development. In a new initiative, Party leader Deng Xiaoping proclaimed that, "China's education must adapt to modernization, to the outside world, and to the future," One of his leading officers, Deng Xuchu, the Party Secretary of Jiaotong University in Shanghai, stated that, "Like agricultural reform that brought prosperity to millions of peasants, educational reform will surely enhance the quality of graduates and boost China's level of science and technology." Modernization is thought by China's leaders to rely heavily on science and technology, and education in these areas as well as reading materials in these areas are being emphasized at the policy level.

Among leading educators in China, the need for improvement of thinking skills in connection with reading activities is being recognized. A member of the Chinese Academy of Social Sciences, Yu Guangyuan, noted that, "Mechanical memorizing does not encourage students to observe and think." Furthermore, the Deputy Director of the Central Institute of Educational Science Research, Teng Chun, affirmed his belief that a critical component of reading is thinking. He expressed his agreement with the American formulation known as schema theory, in which thinking processes such as spontaneous drawing of inferences are inherent in effective reading comprehension.

The Secretary of the National Education Association--Language Instruction Division, Madame Gao Huiying, concurred with this perspective on reading education. She stated that high priority goals for curriculum are to reduce teacher-centeredness and increase independent reading and self-guided learning in primary schools. She emphasized that reading in Chinese elementary schools emphasizes pronunciation of characters at the outset of instruction with immediate transition to silent reading and thinking activities. Representatives of the People's Educational Publishing House in Beijing stated that a major objective of elementary reading education is to enable students to comprehend the central ideas of newspaper articles and texts at equivalent difficulty levels. Finally, leading teachers in the Xian Secondary School pressed us, as members of the American Reading Study Team, for ideas on how students could be taught strategies of comprehension that would apply to textbooks they had not read. They are presently exploring how to test students' proficiency in the processes of reading as well as in the knowledge gained from these processes.

These statements reflect an awareness that students must be taught to read and process these materials thoughtfully and critically in ways that are not at the present time widespread in Chinese education. Educators are being encouraged to progress beyond the requirements for memory and recitation toward constructive interpretations and critical reformulations. The current policy for literacy is not without its precedent, however, for Confucius has written that:

> Learning without thought
> Is labor lost;
>
> Thought without learning
> Is perilous.
> --Confucius--Analects, Book II, Chapter XV

APPENDIX I

FINAL ITINERARY
READING SKILLS ACQUISITION STUDY TEAM TO THE PEOPLE'S REPUBLIC OF CHINA
May 10-31, 1984

Thursday, May 10

7:55 p.m. Arrive Beijing Airport aboard Pan Am #17
Proceed to:
Xiyuan Hotel
Erligou
Beijing

Friday, May 11

Morning Rest

1:10 p.m. Depart hotel

1:30 Central Institute of Educational Science Research (CIER):
- Welcoming remarks (Zhang Jian, Director; Vice-President of the Chinese Education Association)
- "Reading instruction in China and CIER research on this subject" (Jiang Zhongren, member, CIER Academic Committee; language instruction specialist)
- "Psychological problems in reading research" (Wu Tangdi, member, CIER Academic Committee; director of educational psychology research office)
- "The concentrated character-recognition method and reading instruction" (Zhang Tianruo, associate researcher in pedagogy)
- Discussion and questions
- Also present:
  - Zhang Tian'en, Deputy Director, CIER
  - Zhou Yuliang, Deputy Director, CIER
  - Wang Tie, Vice-chairman, CIER Academic Committee
  - Jiang Shanye, member, CIER Academic Committee
  - Qu Cheng, member, CIER Academic Committee; director of comparative education research office
  - Jin Shibai, member, CIER Academic Committee; comparative education specialist
  - Zou Guangwei, director of educational theory division, CIER
  - Chen Pu, director of pedagogy research office, CIER
  - Cao Qingyang, director of educational resource center, CIER
  - Yu Lin, member, CIER Academic Committee; director of educational system research office
  - Shi Huizhong (f), deputy director of preschool children's education research office, CIER
  - Pan Ziyou, deputy director of pedagogy research office, CIER

Zhang Jiaquan, deputy director of education technology research office, CIER
Mo Wenfan, director of library and resource materials, CIER
Zhang Xiaoxu, deputy director of library and resource materials, CIER
Xu Luchen, deputy editor-in-chief of "Education Research" journal
Sun Yunren, former editor-in-chief of "Education Research;" member, CIER Academic Committee

4:00 Return to hotel

6:00 Depart hotel for Hongxinglou Restaurant

6:30 Welcoming banquet hosted by Zhang Wensong, Vice-Minister of Education in charge of primary and secondary education

Saturday, May 12

7:20 a.m. Depart hotel

7:45 Arrive at the Jingshan School:
- Welcome by He Hongchen, Headmaster
- Observe flag-raising ceremony and morning calisthenics
- Observe fifth-grade Chinese class (Zhu Yingsheng, instructor)
- Observe fifth-grade English class (Fang Bihui, instructor)
- Briefing (Liu Manhua, Principal of elementary school and developer of Chinese instruction materials)
- Discussion and questions

11:00 Depart Jingshan School for hotel

1:20 p.m. Depart hotel

2:00 Arrive at the People's Educational Publishing House:
- Welcome and introduction (Liu Guozheng, editor)
- "Introduction to reading materials for elementary schools" (He Huijun, curriculum developer; with Yuan Weizi, consultant, and Li Zepeng, director of the publishing office)
- Discussion and questions
- Visit book stacks

4:45 Depart publishing house for hotel

Sunday, May 13

8:00 a.m. Depart hotel for tour of Great Wall and Ming Tombs

7:00 p.m. Beijing opera performance

Monday, May 14

7:50 a.m. Depart hotel

8:30	Arrive at Beijing Normal University: Observe classes in experimental kindergarten Zhang Houcan, chairperson, Psychology Department Peng Danling, vice-chairperson, Psychology Department Chen Qi, faculty member, Psychology Department Guo Dejun, faculty member, Psychology Department Gao Huiying, faculty member, Education Department Zhu Shiyuan, faculty member, Education Department Liu Xiqing, faculty member, Chinese Department Zhu Jiajue, faculty member, Chinese Department Meng Xiongwei, CIER
11:30	Return to hotel
1:30 p.m.	Depart hotel for CIER
2:00	Presentations by delegation members at CIER: "The context of reading instruction in American schools" (Dorothy Strickland) "Recent trends and reforms in American reading" (John Guthrie) "Technology and its role in reading instruction" (Richard Venezky) "Current research in the U.S. on reading and education" (Richard Anderson)
4:30	Return to hotel
7:00	Folk dance performance

Tuesday, May 15

8:20 a.m.	Depart hotel
9:00	Commission on Language Reform: "Overview of language reform since 1949 and introduction to the experimental 'pinyin character recognition/early reading and writing' method" (Ni Haishu) Also present: Chen Naihua
11:00	Return to hotel
1:30 p.m.	Depart hotel
Afternoon	Visit Palace Museum and Friendship Store
6:30	Return banquet at Kangle Restaurant Guests: Zhang Wensong, Ministry of Education Zhang Jian, CIER Zhang Tian'en, CIER Zhou Yuliang, CIER Teng Chun, CIER Yu Fuzeng, Ministry of Education Ma Jiali, Ministry of Education

Li Zepeng, People's Educational Publishing House
He Hongchen, Jingshan School
Zhao Huiwu, Beijing #1 Normal School
Wang Maozheng, Beijing #3 School for Deaf-mutes
Li Bo, CIER
Fu Li, CIER

Wednesday, May 16

8:15 a.m.	Depart hotel
9:00	Beijing #1 Normal School: Welcoming remarks and introduction (Zhao Huiwu, Principal) "Training future elementary school teachers to teach Chinese" (Yin Saifu, instructor) Also present: Ge Shouxi, Vice-principal Liu Jianhua, instructor Niu Lianhua, instructor Observe morning calisthenics and classes Discussion and questions
11:30	Return to hotel
1:30 p.m.	Depart for Summer Palace
4:00	Return to hotel
7:00	Performance of magic and acrobatics

Thursday, May 17

7:30	Depart hotel
8:00	Beijing #3 School for Deaf-mutes Welcoming remarks and introduction (Wang Maozheng, Vice-principal) Observe classes and sewing workshop Discussion and questions
11:15	Return to hotel
Afternoon	Rest
5:00 p.m.	Depart hotel for train station
7:06	Train #89 for Huhhot (dinner on board)

Friday, May 18

8:40 a.m.	Arrive in Huhhot; met by: Wei Xian (Deputy director, Inner Mongolia Autonomous Region Education Department) Qin Zhengqi (Deputy director, Administrative Office of the Inner Mongolia Autonomous Region Education Department) Song Bencheng (Deputy chief, First Office of Higher Education)

	Ulantuke (Deputy chief, Office of Minority Education) Depart for Siziwang Banner
11:00	Arrive in Siziwang Banner; met by: Chen Dehua [f] (Head, Siziwang Banner) Dangdai (Director, Siziwang Banner Education Office) Pengsige (Supervisor, Siziwang Banner Mongolian Schools) Li Xinmin (Director, Siziwang Banner Office of Cultural and Educational Affairs) Lunch and rest
2:00 p.m.	Visit Ulanhua Mongolian Elementary School: Welcoming remarks and introduction (Langtou, Principal) Observe classes Discussion and questions
3:15	Depart for Wangfu Brigade #2
4:30	Visit Baiyinhushao Mongolian Elementary School
5:30	Sightseeing
7:30	Music and dance performance
Overnight	Wangfu Brigade tourist yurts
Saturday, May 19	
5:00 a.m.	Depart Wangfu Brigade #2 for Huhhot
9:30	Equestrian performance
10:45	Briefing on education in Inner Mongolia Autonomous Region (Wei Xian)
2:30	Visits to Tomb of Wang Zhaojun, Minorities Products store and Historical Museum
7:00	#264 train to Beijing
Sunday, May 20	
9:30 a.m.	Arrive Beijing, proceed to airport
11:30	Farewell lunch in airport dining room
12:45 p.m.	CAAC flight #1201 to Xian
2:40	Arrive Xian, proceed to People's Mansions
4:30	Visit Xian city wall
Monday, May 21	
7:50 a.m.	Xian Secondary School: Welcome and briefing (Han Zenggui, Principal) Also present: Geng Jingxiong, director of language teaching and

research
Liu Dingfu, head of language teaching and research group
Fan Xinhua (f), language teacher
Liu Yuying (f), language teacher
Observe Chinese language and science classes
Discussion and questions

12:30 p.m. Visit the Big Wild Goose Pagoda

2:00 Youth Road Elementary School:
Welcome and briefing (Bai Fuyi, Vice-Principal)
Also present:
Bai Youzhang, director of instruction
Yang Yuzhi, mathematics teacher
Shi Baozong, mathematics teacher
Liu Xiulan, art teacher
Yang Fanghua, Chinese teacher
Bi Yijuan, Chinese teacher
Wu Ying, Chinese teacher
Zhang Tiantai, Chinese teacher
Observe Chinese language and history classes, and preschool group
Discussion and questions
Cultural performance by students

Tuesday, May 22

8:00 a.m. Visit Huaqing hot springs

10:30 Visit Qin Army vaults

1:30 p.m. Visit burial mound of Qin Shi Huang

3:00 Visit Banpo Museum

4:00 Visit Shaanxi Provincial Museum and Stele Forest

5:00 Visit Fenghuang Embroidery Factory

Wednesday, May 23

8:10 a.m. CAAC flight #2501 to Shanghai

11:05 Arrive Shanghai; proceed to People's Restaurant for lunch; shopping on Nanjing Road

3:00 p.m. Depart by train for Hangzhou

5:15 Arrive Hangzhou, proceed to Zhejiang Guest House

Thursday, May 24

8:30 a.m. Depart for cruise of West Lake and visits to Huagang Park and Liuhe Pagoda

2:00 p.m. Visit to Friendship store and Hangzhou Exhibition Hall

3:20 Visit to Du Jinsheng Silk Weaving and Embroidery Factory

7:15 Recital by Central Opera Academy

Friday, May 25

9:00 a.m. Visit to Zhejiang Preschool Teachers Training School
  Welcome and introduction (Luo Meisun, Principal and Part Secretary)
  Also present:
    Chen Donglin, Vice-Principal
    Ding Biying, Vice-Principal
    Qiao Defeng, Director of Teaching and Research Group
  Discussion and questions
  Visit music and dance classes and dormitories
  Visit experimental kindergarten

2:00 p.m. Visit to Lingyin Temple, Jade Springs and Temple of Yue Fei

7:00 Visit to Qianjiang Spare-time Adult School
  Welcome and introduction (Zhan Shaowen, Principal and founder)
  Observe English classes

Saturday, May 26

9:00 a.m. Visit to Hangzhou University:
  Welcome (Chen Li, Professor of Psychology and former President)
  Introduction (Wang Ansheng, Chairman, Department of Psychology)
  Also present:
  Lu Jing (Professor of Child Psychology)
  Wang Wenjian (Professor of Child Psychology)
  Lu Wanjun (Lecturer in Child Psychology)
  Lu Hong (Assistant in Child Psychology)
  Gao Man (Assistant in Educational Psychology)
  Li Kang (Assistant in Psychology)

1:00 p.m. Visit Zhang Xiaoquan Scissors Factory; shopping in downtown Hangzhou

4:00 Train #352 to Shanghai

9:15 Arrive Shanghai; proceed to Cypress Hotel

Sunday, May 27

8:30 a.m. Visit Zhabei district Children's Palace:
  Welcome and introduction
  Cultural performance
  Tour of Children's Palace

1:30 p.m. Cruise on Huangpu River

Monday, May 28

8:30 a.m. Visit Shanghai Foreign Languages School

Welcome and introduction (Chen Wei, Vice-Principal)
Observe classes
Discussion and questions
Also present:
  Xue Junqiu, Deputy Director of Teaching Programs
  Gu Yunqian, Secretary to the Office of the Principal
  Tang Ruifen, English teacher
  Zhang Huifen, English teacher
  Yang Xingyi, English teacher
  Ma Wentong, English teacher
  Chen Ya'nan, Chinese teacher
  Wang Lingling, Chinese teacher

12:00 noon Lunch at Old Town Restaurant; visit area around Yuyuan and Temple of the City God

1:30 p.m. Visit Shanghai Nanshi District Experimental Elementary School
Welcome and introduction (Yuan Rong, Principal)
Observe classes
Discussion and questions
Also present:
  Lin Youyu, Vice-Principal
  Yang Lijuan, Geography teacher
  Jin Mingjie, Chinese teacher

7:15 Performance of "Fragrant Magnolia" (Mulan Piaoxiang)

Tuesday, May 29
9:00 a.m. Visit East China Normal University
Welcome and introduction
Briefing on reading research (Zeng Xingchu, Professor of Psychology)
Observe classes and visit library
Discussion and questions
Also present:
  Miao Xiaochun, Chairman, Psychology Department
  Zhu Manshu, Researcher in Psychology
  Wan Yunying
  Liao Yichun

12:00 noon Lunch at East China Normal University

2:00 p.m. Shopping at Arts and Crafts Store of the Shanghai Exhibition Hall, the Friendship Store, and Huainan Road

4:00 Return to hotel

Wednesday, May 30
8:30 a.m. Visit Number 4 Normal School
Welcome and introduction (Li Yan, Vice-Principal)
Observe classes
Discussion and questions

Also present:
- Lu Xiang, Vice-Principal
- Kang Yongxing, Deputy Director of Teaching Programs
- Wang Zhonghao, Head, Chinese language teaching and research group
- Zhang Pingnan, Instructor, Chinese language teaching methods
- Wang Yongming, Secretary to the Principal

2:00 p.m. Meeting and discussion with representatives from

Shanghai Youth and Children's Publishing House:
- Shi Yanbing, Director, Office of Literary Editing and Translating
- Yu Peiming, Editor, History
- Dai Yangfan, Editor-in-chief, "Little Friends"
- Zheng Chunhua, Editor and translator, publications for the retarded

Shanghai Education Publishing House:
- Gu Fangben, Deputy Editor-in-chief
- Hu Huifen, Director, Office of Editing and Translating materials in pinyin
- Chen Miaoxiao, Editor, "Chinese language instruction in elementary schools"
- Dai Keqi, Editor-in-chief, "Reading through Pictures"
- Fan Shougang, Editor, "Studying the Chinese Language"

4:30 Depart publishing house

6:30 Farewell dinner at Cypress Hotel

Also present:
- Shi Yanbing
- Gu Fangben
- Yuan Rong

Thursday, May 31

9:00 a.m. Visit Temple of the Jade Buddha

11:00 Return to hotel

12:00 noon Depart for airport

1:20 p.m. Return to U.S. on Pan Am flight #18

APPENDIX II

MEMBERS OF THE U.S. READING STUDY TEAM

Richard C. Anderson	Professor of Psychology; Professor of Education; Director, Center for the Study of Reading, University of Illinois-Champaign (Delegation leader)
Irene J. Athey	Professor of Education; Dean, Graduate School of Education, Rutgers University
Isabel L. Beck	Professor of Education, School of Education; Co-Director, Reading and Comprehension Unit, Learning Research and Development Center, University of Pittsburgh
Mae Chu-Chang	Education Consultant, The World Bank
John T. Guthrie	Director, Center for Educational Research and Development, College of Education, University of Maryland-College Park (At time of visit to China: Director of Research, International Reading Association)
Dorothy S. Strickland	Professor of Education, Department of Curriculum and Teaching, Teachers College, Columbia University
Ovid J.L. Tzeng	Professor of Psychology, University of California-Riverside; Director, Center for Orthography, Reading and Dyslexic Studies, University of California-Berkeley and The Salk Institute
Richard L. Venezky	Unidel Professor of Educational Studies and Computer and Information Services, University of Delaware
June Y. Mei	Program Associate, National Committee on U.S.-China Relations (Delegation secretary)

The Office of Educational Research and Improvement, a new office within the Department of Education, seeks to build an effective educational improvement system through basic and applied research, development, demonstration, and dissemination projects. Its activities yield the opportunity to examine both short and long-term issues and problems in education. OERI links research with demonstration programs and practical applications. It also links local schools with federally supported research seeking to solve problems faced in the classroom and in the school system.

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Office of Educational Research and Improvement
1200 19th Street, N.W., Brown Building
Washington, D.C. 20036
(202) 254-6413

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The work of the National Committee is made possible by major grants from the United States Department of Education and the United States Information Agency, and by contributions from public-spirited corporations, foundations, and private citizens.

National Committee on U.S.-China Relations
777 United Nations Plaza
New York, New York 10017
(212) 922-1385

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